

EXHIBIT “J”

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE SOUTHERN DISTRICT OF NEW YORK

3 FRANKLIN BUONO,

Plaintiff,

4 vs.

Index Number
7:17-CV-05915-
PMH-LMS

5 POSEIDON AIR SYSTEMS, VICTORY
6 AUTO STORE, INC., VICTORY AUTO
7 STORES, INC., d/b/a POSEIDON AIR
SYSTEMS, WORTHINGTON INDUSTRIES,
INC. and TYCO FIRE PRODUCTS LP,
Defendants.

8 TYCO FIRE PRODUCTS LP,
Third-Party Plaintiff,

9 vs.

10 OPRANDY'S FIRE & SAFETY, INC.,
Third-Party Defendant.

11
12 June 25, 2020
9:58 a.m.

13
14 Remote video-teleconference deposition of
15 THOMAS TARANTO, taken by Defendant/Third-Party
16 Plaintiff Tyco Fire Products LP, held at Lysander,
17 NY, pursuant to notice, before Elizabeth F. Tobin, a
18 Registered Professional Reporter and Notary Public
19 of the State of New York.
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21
22
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25

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21 ALSO PRESENT:

22 JACK DANON
23
24
25

STIPULATIONS

IT IS HEREBY STIPULATED AND AGREED, by and among counsel for the respective parties hereto, that the filing, sealing and certification of the within deposition shall be and the same are hereby waived;

IT IS FURTHER STIPULATED AND AGREED that all objections, except as to form of the question, shall be reserved to the time of the trial;

IT IS FURTHER STIPULATED AND AGREED that the within deposition may be signed before any Notary Public with the same force and effect as if signed and sworn to before the Court.

Federal Rule 30(3) provides: The parties may stipulate, or the court on motion order, that a deposition may be taken by telephone or other remote means. For the purpose of this rule and Rules 28(a), 37(a)(2) and 37(b)(1), the deposition takes place where the deponent answers the questions.

* * *

1 COURT REPORTER: Would you like a copy of
2 the transcript?

3 MS. FAPPIANO: Yes, please.

4 MR. FROMSON: Yes, please.

5 COURT REPORTER: Good morning. My name
6 is Elizabeth Tobin. I am a New York State
7 stenographic reporter and a registered
8 professional reporter. Today's date is
9 June 25, 2020 and the time is approximately
10 9:58 a.m. This is the deposition of Thomas
11 Taranto in the matter of Buono versus Tyco, et
12 al. This case is venued in the United States
13 District Court for the Southern District of New
14 York. The case number is
15 7:17-CV-05915-PMH-LMS.

16 At this time I will ask counsel to
17 identify yourself, state whom you represent and
18 agree on the record that there is no objection
19 to this deposition officer administering a
20 binding oath to the witness remotely via
21 video-teleconference.

22 MR. FROMSON: Good morning. This is Ken
23 Fromson on behalf of plaintiff and I have no
24 objection to the remote video deposition taking
25 place today.

1 MR. KIRKPATRICK: I'm James Kirkpatrick
2 on behalf of Tyco Fire Products and there's no
3 objection from us.

4 MS. FAPPIANO: This is Tara Fappiano for
5 third party defendant Oprandy's Fire & Safety.
6 I have no objections.

7 T H O M A S T A R A N T O,
8 of lawful age, called by the Defendants for
9 examination pursuant to the Federal Rules of Civil
10 Procedure, stating an address of 3396 Patchett Road,
11 Baldwinsville, New York 13027, having been first
12 duly sworn remotely upon agreement of all counsel,
13 as hereinafter certified, was examined and testified
14 as follows:

15 EXAMINATION OF THOMAS TARANTO

16 BY MR. KIRKPATRICK:

17 Q. Mr. Taranto. Could you please state your
18 full name and address for the record?

19 A. Yeah. Thomas, middle name is Felix,
20 Taranto. And 3396 Patchett Road in Baldwinsville,
21 New York and the zip is 13027.

22 Q. Thank you. Sir, you've testified under
23 oath before, right?

24 A. Yes.

25 Q. If at any time you don't understand my

1 question, feel free, please, to ask me to clarify
2 it. Otherwise I'll assume you understand the
3 question. Okay?

4 A. Good.

5 Q. Is there any reason you can't testify
6 truthfully today or understand the oath that you're
7 under?

8 A. No reason.

9 Q. Separate from the process of preparing
10 your report, what did you do to prepare for your
11 testimony today?

12 A. Reviewed the other expert opinions that
13 we received and read through my report and just
14 reviewed everything.

15 Q. Which reports from the other experts,
16 which did you review?

17 A. Did I list their names? Hold on just a
18 second. I have to look that up.

19 Q. Do you recall how many you reviewed?

20 A. There was four. I think four or five.

21 Q. I may be able to shortcut it. Do you
22 know if you've reviewed all of Tyco's expert
23 reports?

24 A. I reviewed Juliano, Dr. Coelho --
25 (Court reporter requested clarification.)

1 A. Kurt Juliano, J-U-I-L-A-N-O [sic].
2 Christensen, Erik Christensen. And then there was a
3 Heejzler, H-E-E-J-Z-L-E-R. Those are the ones I
4 looked at.

5 Q. Can you say the last one again?

6 A. I couldn't say it the first time. But
7 I'll try. It's Heejzler, H-E-E-J-Z-L-E-R.

8 Q. Got it. Got it. Got it. How much time
9 did you spend preparing for this deposition other
10 than drafting your report?

11 A. Oh, three days.

12 Q. Full days?

13 A. Yeah.

14 Q. Three full days?

15 A. Yeah.

16 Q. Did you have any conversations with
17 counsel for plaintiff, Ken Fromson?

18 A. Yes.

19 Q. How many conversations did you have with
20 him?

21 A. I think maybe two. Maybe a third one on
22 some logistical things.

23 Q. For the two substantive conversations,
24 how long did they last?

25 A. Probably around an hour each, maybe a

1 little less. T. TARANTO

2 Q. Did you speak with anyone else to prepare
3 for this deposition?

4 A. No.

5 Q. Other than the expert reports, did you
6 review any documents?

7 A. Well, the ones that are included in my
8 report.

9 MR. KIRKPATRICK: Daniel -- I'm going to
10 have Daniel help me mark exhibits.

11 Daniel, can you mark tab A as Exhibit 1.

12 (Exhibit 1, Thomas Taranto's expert
13 report; 121 pages, marked for identification.)

14 MR. WHITELEY: Yeah, I'm working on that
15 now. It's loading in now.

16 Q. If you refresh, it should now be up,
17 Mr. Taranto.

18 A. Yep.

19 Q. Does this look to you like your expert
20 report?

21 A. Yes. I don't know if there were things
22 added in the PDF. There's 121 pages.

23 Q. This, I believe, includes the appendices.

24 A. Yeah.

25 Q. Actually, and on that note, if you could

1 go to appendix C, it's your CV.

2 A. Mm-hmm.

3 Q. Is this the most updated version of your
4 CV?

5 A. I'm getting there.

6 Yes, it is.

7 Q. And is it up-to-date? Would you consider
8 it up-to-date?

9 A. Yeah.

10 Q. Is there any other experience that you
11 consider relevant to your opinions that's not listed
12 in your CV?

13 A. No.

14 Q. Did you add anything to your CV because
15 you were retained for this case?

16 A. No.

17 Q. Did you subtract anything?

18 A. No.

19 Q. Do you have other versions of your CV
20 that you keep or do you use the same versions for
21 everything?

22 A. I pretty much use the same version for
23 everything. I have condensed versions, but...

24 Q. So this is the most complete version of
25 your CV?

1 A. Yes. T. TARANTO

2 Q. I want to talk about your experience with
3 compressed gas systems. This is a very general
4 question. What are the type of -- the systems you
5 generally work with, what are they typically used
6 for?

7 A. Oh, quite a large variety of things. A
8 lot of systems are industrial, compressed air. It's
9 basically used to power equipment or it's used to
10 control things or it's used to take part of a
11 process, usually used for the oxygen content for --
12 there's an oxidizer and process applications.

13 Those are the three main uses. I've also
14 worked with NASA at Stennis Space Center on missile
15 grade air system there. I can't tell you about
16 that.

17 And I've worked at Pearl Harbor in the
18 controlled machine area. I've worked at the
19 sub-base and those are all classified things as
20 well.

21 But those systems are quite a bit
22 different typically than the industrial system.

23 Q. Sure. What's the typical range of
24 pressures involved in those these systems?

25 A. Anywhere -- in a typical industrial

1 system, it might be 100 to 750 psi. Some of the
2 classified systems are as high as 2,500, 3,000.

3 Q. What would you consider a high-pressure
4 system?

5 A. Well, high pressure systems are
6 typically, I think, thought of over 500 psi. But
7 all -- CGA has their definition of what high
8 pressure is, Compressed Gas Association, National
9 Fire Protection Association. Everybody has a
10 different level that they then call high pressure.
11 It depends on the --

12 Q. Which standards would you consider the
13 leading standards in terms of compressed air?

14 A. It depends on the purpose. There's
15 Instrument Society of America. There's Compressed
16 Air & Gas Institute. There's New Rock which is the
17 European standard company.

18 I mean, it depends on what area of
19 compressed air specialty you're in.

20 Q. Do you have experience with transfilling?

21 A. Yes.

22 Q. What experience is that?

23 A. Well, I've been a member of the volunteer
24 fire department since 1980 and we have a compressed
25 air system with a cascade and a bank of tanks and

1 you transfill the Scott bottles, so I'm quite
2 familiar with that.

3 (Court reporter requested clarification.)

4 A. They're a self-contained breathing
5 apparatus bottles. Scott is a brand name.

6 Q. And you physically fill tanks from the
7 Scott bottles to the breathing apparatus tanks?

8 A. From the compressor to the storage tanks
9 to the Scott bottles, yes.

10 Q. How --

11 A. I'm not qualified on the system that we
12 presently have at our firehouse, but I was qualified
13 on the two previous systems for many, many years.

14 Q. What years were those when you were
15 qualified?

16 A. From the early 1980s through, I think, we
17 replaced the system in around 2000, 2002.

18 Q. How often would you use that system?

19 A. Oh, well, actually one of the systems I
20 drew samples twice a year and sent them to a lab for
21 analysis. And we also had an online carbon monoxide
22 monitor that I checked periodically every month or
23 two.

24 And then filling bottles, any time we had
25 a major fire incident, maybe four, five times a

1 year, I'd use it. And then after trainings and
2 stuff, I would use it quite frequency.

3 Q. Four to five times plus training. How
4 many total do you think that was?

5 A. Oh, probably 15 or 20.

6 Q. Do you recall the pressures involved in
7 that system?

8 A. Yeah. Initially our SCBA bottles were
9 2,200 psi. And we transitioned to a different air
10 pack. And the pressure there was 4,500. And the
11 system that I used throughout most of that time had
12 the ability to accommodate either model. So you had
13 different controls that you had to set for the 2,200
14 psi bottles versus the 4,500.

15 Q. Would you ever use either of the systems
16 to fill hand-held fire extinguishers?

17 A. No.

18 Q. Would you ever use the systems to fill
19 any low pressure tank? And low pressure, to use
20 your -- under 500 psi, 500 or below?

21 A. You could. We didn't. We are equipped
22 to use our 4,500 psi, SCBA bottles to power 100 psi
23 air tools for vehicle extrication. So we have a
24 system on our heavy rescue that allows you to
25 connect up the bottles and reduce the pressure and

1 operate for, more or less, what's an industrial tool
2 off the high-pressure bottle. We do that from time
3 to time.

4 Q. But you didn't fill low pressure tanks?

5 A. No.

6 Q. Would you say that your experience as a
7 volunteer firefighter is -- does that form part of
8 the bases of your opinion in this case?

9 A. I think all of your life experience does.

10 Q. But in particular, do you draw from the
11 experience that you've gained with respect to the
12 specific opinions that you're offering in this case?

13 A. Well, it's hard to tell where the lines
14 cross between my experience with the high pressure
15 cascade system and my training.

16 In other words, I was sales engineer and
17 Mako Corporation is a company that is in the
18 business, primarily in scuba tanks, underwater
19 tanks. They also have SCBA equipment. So I have
20 had to train through my engineering position as a
21 sales engineer for Mako and my experience, I don't
22 know how you draw distinctions.

23 Q. I guess to put a finer point on it, in
24 terms of -- because obviously this case involves the
25 fire protection industry.

1 A. Yes. T. TARANTO

2 Q. Did your experience as a volunteer
3 firefighter inform any of the opinions you have
4 about the fire protection industry?

5 A. I mean, are you asking that in the
6 context of the restaurant fire protection systems?

7 Q. Yes.

8 A. Not really. I mean, in my position in
9 the fire department, we have a codes enforcement
10 officer in the town and so as far as the authority
11 having jurisdiction and anybody that would go into
12 restaurants or look at systems and so forth and so
13 on, that was never part of my role as volunteer
14 firefighter or anything. So, you know --

15 Q. Other than the SCBA tanks and the general
16 attributes of the cascade system, do your
17 experiences as a volunteer firefighter inform your
18 opinions as to how the system at Oprandy's was used?

19 A. No. How the system was used is from the
20 record.

21 Q. In terms of how the system should have
22 been used?

23 A. Again, there's -- I mean, there's
24 standards. There's a lot of material on the record
25 about how it should have been used. I don't know

1 how relevant my experience is in relationship to
2 those facts.

3 Q. And I think we have just covered this,
4 just to make sure it's clear.

5 Do you consider yourself an expert in the
6 pre-engineered fire suppression systems, like the
7 Kitchen Knight system?

8 A. No.

9 Q. Aside from this case, have you ever
10 encountered a Kitchen Knight system? When I say
11 Kitchen Knight, just to be clear, I refer to both
12 Kitchen Knight and Kitchen Knight II systems.

13 A. You're not talking just general
14 pre-engineered restaurant fire suppression systems,
15 you're talking about specific brands?

16 Q. No, I was. Now I'm asking about specific
17 brands.

18 A. No.

19 Q. Now I'll ask more generally.

20 Have you encountered any other
21 pre-engineered fire suppression system throughout
22 your professional experience?

23 A. Well, my family was in the restaurant
24 business, so from the time I can remember until I
25 went to college, so, yeah, I had some exposure to

1 our fire suppression system that we had.

2 Q. But were you involved in installing,
3 maintaining or servicing that system?

4 A. No.

5 Q. Do you consider yourself an expert in
6 hand-held fire extinguishers?

7 A. Not really, no.

8 Q. Do you consider yourself an expert in the
9 fire protection industry in general? And I'll carve
10 out formal fire fighting.

11 A. Not including formal fire fighting?

12 Q. Yeah. Not including that.

13 A. I have a fair bit of knowledge in that
14 field, yes.

15 Q. Did that come from experience other than
16 being a volunteer firefighter?

17 A. Some degree, yes. And some degree as
18 being a firefighter.

19 Q. Other than being a volunteer firefighter,
20 what are those experiences?

21 A. The -- just the general information I'm
22 aware of and standards and so forth having dealt
23 with them for various purposes over the years.

24 Q. Are you familiar with the NFPA standards?

25 A. I'm sorry?

1 Q. The NFPA standards, is that what you're
2 referring to?

3 A. Yeah.

4 Q. In what context other than this case have
5 you come across the NFPA standards?

6 A. Well, as a -- as an officer in the fire
7 department, in the chiefs' ranks, the fire
8 department, as an executive board member of a fire
9 department. You know, we had all various things
10 that we have to comply with and review, so forth.

11 Q. In the course of those experiences that
12 you just described, did you ever have occasion to
13 study or learn NFPA standards 10, 17 or 17A?

14 A. Not really in the fire department, no.

15 Q. Do you have any experience writing or
16 designing warning labels in the fire protection
17 industry?

18 A. Not in the fire protection industry.

19 Q. Do you have experience writing or
20 designing warning labels in general?

21 A. Yeah. My area of expertise throughout my
22 whole career since 1976 has been --

23 (Telephonic interruption.)

24 THE WITNESS: That will go away. I
25 apologize.

1 A. I've been in the fluid power industry as
2 a fluid power engineer. You design hydraulic and
3 pneumatic circuits for all manner of and use
4 applications, anything from a high-speed packaging
5 machine to a car crusher, you know.

6 So in association with that, there's
7 always a component of instructions and labeling and
8 warnings and so forth that go along with the system.

9 Q. And you've been involved in designing
10 those labels?

11 A. I've been involved in identifying the
12 hazards and typically the ultimate design of the
13 labels would be the client's/engineer's
14 responsibility, but I work quite closely with them
15 in that regard.

16 Q. So you would say, for example, these are
17 the things that we need to warn people about?

18 A. Yeah, these are the things that could
19 become -- you know, are hazards and these are the
20 things that we could -- we should cover
21 appropriately.

22 Q. And then you would -- you would take that
23 to the client's -- I think you said design engineer,
24 and then they would make the label, write the label,
25 design it, et cetera?

1 A. Yeah. T. TARANTO

2 Q. Do you have any experience writing or
3 designing product -- sorry, product manuals?

4 A. Yes. I have a company that manufactures
5 industrial transducers for the measurement of
6 compressed air system performance. So we have data
7 loggers and then pressure transducers and flow and
8 kW transducers to measure the power to the
9 compressors and so forth. And I write manuals for
10 those.

11 Q. And you actually write the entire
12 manuals?

13 A. Well, usually what I have is our
14 suppliers of components have manuals that they give
15 us authorization to use as source documents and then
16 I use that as a source document and then add the
17 things that are, you know, specific to our
18 application and so forth.

19 Q. Any other -- other than that, any other
20 experience writing manuals?

21 A. No.

22 Q. To jump back, sorry, you said in the
23 fluid power industry. Can you just describe that
24 very generally? I don't know what that is.

25 A. Yes, fluid power industry encompasses

1 hydraulics and pneumatics. Of course, oil is a
2 fluid. Air is considered a fluid as well. And so
3 you -- there's -- there's things that you can do
4 with hydraulics because they have a lot more energy
5 available than a pneumatic system does, typically.
6 And then there's a crossover point where you can do
7 different things with either hydraulics or
8 pneumatics.

9 So they're both considered to be fluid
10 powered applications.

11 Q. I'm sorry. I'm jumping around a bit.

12 In terms of writing either labels or
13 manuals, have either of these then -- strike that.

14 Are the manuals, to your knowledge, that
15 you've written ever used in the fire protection
16 industry?

17 A. I don't think we've ever had any of our
18 data acquisition equipment go into the fire
19 protection industry, no. It could. But I don't know
20 of any.

21 Q. Have you ever, whether in academia or any
22 other context, studied warning labels?

23 A. Yeah. I took a safety engineering class
24 at Clarkson University in 1975 and then throughout
25 my career we have -- I've worked with controls that

1 can automatically start, stop equipment and so
2 forth. And so that brings in a new realm of
3 labeling that you have to have, if a machine will
4 start itself automatically.

5 And then working with what they call
6 lockout/tagout instructions, how do you de-energize
7 a piece of equipment. Because hydraulics is a form
8 of energy. Pneumatics is a form of energy, just
9 like electricity and so forth. So, yeah, I've
10 studied various trade information and journals and
11 articles and so forth over the years related to that
12 kind of stuff.

13 Q. And do those articles, et cetera, do they
14 study the effects that warnings have on human
15 behavior?

16 A. No. It's what are the things that you
17 need to be sure to try to accommodate and so forth.
18 But as far as human behavior, no.

19 Q. This would be an analysis of the
20 regulations of the standards and saying what of
21 those need to be on the warning label? Do I have
22 that right?

23 A. Yeah, what are the hazards and what needs
24 to be, you know, dealt with in everything, the
25 instructions, the manuals, the lockout/tagout, the

1 labeling, all those areas. ANTO

2 Q. Have any of these involved the fire
3 protection industry?

4 A. Not that I recall.

5 Q. Have you ever conducted any research on
6 how warnings affect people's behavior?

7 A. No.

8 Q. Have you ever done any consulting on how
9 warnings affect people's behavior?

10 A. No.

11 Q. Do you have any experience testing the
12 efficacy of particular warnings?

13 A. No.

14 Q. Before this case, have you ever offered
15 an expert opinion on product warnings, whether in
16 the manual, on the label or anywhere else?

17 A. In a legal proceeding, no.

18 Q. Or elsewhere?

19 A. Well, I mean, I've had input into the
20 lockout/tagout and the labeling and all those things
21 we've been discussing. I would say that fits your
22 question.

23 Q. Have you published any articles on the
24 subject of product warnings?

25 A. Not as the primary subject. But I've

1 published articles on various applications for fluid
2 power, industrial process systems and so forth and
3 they may have had an element of safety associated
4 with it, but it wasn't the primary thrust of the
5 article.

6 Q. Do you consider yourself an expert in
7 ergonomics or human factors?

8 A. No.

9 Q. Have you ever been an authorized
10 distributor or dealer of a pre-engineered fire
11 suppression system?

12 A. No.

13 Q. Have you ever had any training on
14 servicing fire suppression systems?

15 A. No.

16 Q. Have you ever had any training on
17 transfilling?

18 A. Yes.

19 Q. What is that? To be clear, what training
20 is that?

21 A. Operating the cascade system through Mako
22 compressors. And also our systems at the firehouse
23 when we replaced the system, Bauer was the
24 manufacturer of the system that we installed and
25 their representatives did training that I attended.

1 And then I, in turn, wrote with some of the other
2 members of the fire department, I was in the chiefs'
3 ranks at the time, wrote procedures and such that we
4 use for our filling process and training our people
5 to do it.

6 Q. So the manufacturers of the source
7 cylinders in these cascade systems provided
8 training. And you took that training?

9 A. Yes, they were manufacturers of the
10 system. You know, there's Taylor-Wharton and
11 there's various companies that make the cylinders.
12 But they're not the people that come in and do the
13 training on running the compressor and filling tanks
14 and everything.

15 Q. Can you just describe what you mean by
16 the system? Is that what connects basically the
17 source to the ultimate thing you're either powering
18 or trying to fill?

19 A. Basically, you start with an air
20 compressor that brings the air up to whatever final
21 discharge pressure the system is designed for.
22 Let's call it 4,000 psi. And then you have the
23 cascade bottles which store that pressurized air.
24 And then you have whatever manner of connections
25 connect those storage bottles to the filling

1 station. And then the filling station has whatever
2 it has for controls and so forth that you then
3 attach the SCBA cylinder to which is ultimately the
4 bottle you're filling. So you've got all these
5 things connected together and that's what I'm
6 calling the system.

7 Q. Because you said that it's not the
8 cascade system or the compressor manufacturer that's
9 done the training, at which step of the system,
10 which manufacturer is doing the training?

11 A. Well, it's typically the -- in the
12 systems that I've been involved with, the
13 manufacturer will -- they may manufacture the
14 compressor or they may not. They may source the
15 compressor.

16 Q. I see. So it comes as one --

17 A. There's a filter that air has to go
18 through to remove primary carbon monoxide and treat
19 the air so you can breathe it safely. And then
20 there's the controls and then there's the
21 containment or the whatever you put the tank in that
22 you're filling and then there's the storage bottles.

23 So typically it's the manufacturer, the
24 person that puts all that stuff together and
25 delivers it is the one that does the training on

1 their particular system. ARANTO

2 Q. Have you ever conducted a training
3 specific to the -- have you ever conducted training
4 specific to the fire protection industry?

5 A. Excluding the fire department as being
6 part of the fire protection industry?

7 Q. Yeah. Let's exclude that. Because I
8 think we covered that.

9 A. Yeah. Okay. No, I haven't.

10 Q. But you have conducted several trainings
11 throughout your career, I think I remember from your
12 resume?

13 A. Yeah.

14 Q. Can you just tell me typically what's
15 involved in training -- in your trainings? What's
16 your typical approach?

17 A. I do a pretty wide range of training, but
18 generally the approach is to have training manual
19 documents, procedures, whatever material there might
20 be. It might be information on the components of
21 the special system or whatever the training topic is
22 and then to have an interactive training where you
23 invite people to ask questions as opposed to just
24 lecturing.

25 Very often in the training material we

1 try to do exercises where you say, okay, we just
2 covered this topic. Now, you know, look at the
3 information and spend some time and map out how you
4 would approach this or what you would do. And then
5 also in many instances we have a hands-on component
6 where we're actually working with the end material
7 or whatever the topic is. So, you know, that kind
8 of encompasses all --

9 Q. When you're training, you're typically
10 training on an entire system as opposed to one
11 particular component of that system, right?

12 A. It may be component based, but generally
13 most of my work is systems based.

14 Q. Do you have any experience working as an
15 engineer?

16 A. Yeah. In --

17 Q. Are you a licensed engineer in any
18 jurisdiction?

19 A. I'm not a licensed engineer, but I'm a
20 graduate mechanical engineer, bachelor of science.

21 Q. Just for my own knowledge, is there
22 anything that differentiates what someone with your
23 degree does versus a licensed engineer does?

24 A. Well, I mean, when I -- when I graduated,
25 the licensed engineers generally were civil

1 engineers because they had the sign, plans and specs
2 for water treatment, submersible water systems and
3 things like that. So basically the difference is,
4 if there's something that has to be signed, the
5 licensed engineer has to sign it.

6 If I work on a particular project and
7 there's some piping systems or other things like
8 that, I'll do conceptual design and then typically
9 turn it over to an engineering firm who would do the
10 final construction documents and so forth and those
11 are what gets signed by the --

12 Q. Have you ever been a licensed engineer?

13 A. No.

14 Q. Have you ever applied to be a licensed
15 engineer?

16 A. I took the exam when I graduated and
17 failed it by one point and, again, at that time
18 licensing was mainly civil engineers. Being a
19 mechanical engineer, I never pursued it further.

20 Q. Are you familiar with the American
21 Society of Mechanical Engineers Boiler and Pressure
22 Vessel codes?

23 A. Yes.

24 Q. Can you just say generally what they are?

25 A. Oh, they're the guidance for both what

1 they call fired pressure vessels which is like a
2 steam locomotive engine. And unfired vessels which
3 is like an air receiver tank or something that
4 doesn't have a fire in it. And then there's a power
5 piping code for the high pressure piping
6 construction and so forth.

7 Q. Would you say they're a leading industry
8 standard on the design and construction of pressure
9 vessels?

10 A. One of them, yes.

11 Q. One of the industry standards?

12 A. Yeah.

13 Q. Okay. I think we've already discussed
14 you are familiar with the standards of the
15 Compressed Gas Association?

16 A. Yes.

17 Q. Before this case, you were familiar with
18 them?

19 A. Yes. Not in great detail but familiar
20 with them, yes.

21 Q. Is it fair to say that they're the
22 leading standards for the safety of the compressed
23 gases and containers?

24 A. Yes. Of course DOT and federal code has
25 ultimate authority there. But in that area,

1 particularly transport and so forth, CGA is
2 referenced quite extensively, yes.

3 Q. You say you haven't worked much with
4 them, but do you recall in what context you've
5 worked with the CGA standards?

6 A. Primarily as it revolves around the tanks
7 at the -- in the fire systems or in the scuba
8 systems when I was a sales engineer for Mako.
9 Because there's two variations of tanks that are
10 typically used as storage tanks. One is DOT
11 cylinders and the other is ASME cylinders. The ASME
12 cylinders revolve around ASME code. The DOT
13 cylinders revolve primarily around DOT and CGA
14 requirements.

15 Q. And when was that?

16 A. Mako was probably from 1985 till maybe
17 '95 we represented Mako.

18 Q. Do you recall -- I know this is reaching
19 back -- do you recall which CGA standards you relied
20 on or came across then?

21 A. No, I can't. Nothing specific.

22 Q. I know we discussed the NFPA standards.
23 Do you recall which NFPA standards you've come
24 across in your work, whether as a volunteer
25 firefighter or anything else?

1 A. Yeah. I don't remember all the numbers.
2 But, you know, mainly the training standards for the
3 various training things. And then there's standards
4 for fire trucks. I mean, when you build a fire
5 engine, when you build a ladder truck. I've been
6 involved in committees doing both of those.

7 You know, there's all kinds of various
8 standards that I've had to become, you know, very
9 familiar with in that work.

10 Q. In terms of your long career as a
11 volunteer firefighter, how much time have you
12 spent -- I guess we can talk in terms of hours per
13 week. I'm sure it's changed over time. But if you
14 can just describe how much time you've spent as a
15 volunteer firefighter.

16 A. Let me get my wife in here for you. Way
17 too much.

18 Q. Yeah.

19 A. I mean, I was -- in addition to
20 firefighter, I was a medic for 18 years in the fire
21 rescue. Advanced EMT critical care from 1982 until
22 2000 was the highest level of training in our
23 region. They didn't have paramedics at that point,
24 so we were called medics.

25 I'm on the executive board,

1 vice-president of one fire department. I was the
2 line officer and chief in the ranks for 12 years. I
3 mean, tens of thousands of hours.

4 Q. In terms of -- let's set the medic, as
5 important as that is, aside.

6 In terms of actual firefighting
7 experience, can you approximate -- obviously you
8 worked full-time at the same time. Can you
9 approximate how many hours a week generally you
10 would be at the firehouse or working in some other
11 context?

12 A. It varies because, you know, fire
13 department -- fire department that I belonged to
14 before I moved to where I am now, I personally went
15 on maybe 500 runs a year. So if the average run is
16 an hour, hour and a half, and you have training one
17 night a week for three hours, then you have
18 committee meetings and such. I mean, probably 10 or
19 15 hours a week, at least, maybe more.

20 Q. Do you have -- let's move on generally to
21 how you got involved in this case. When were you
22 first retained for this case?

23 A. I believe it was in the early part of
24 2017.

25 Q. Do you remember who contacted you?

1 A. Yeah. Andrew Finkelstein. An assistant
2 of Andrew's contacted me initially and then I
3 discussed it with Andrew.

4 Q. I don't want to know about conversations
5 you had with him or anyone else at the Finkelstein
6 firm.

7 Have you ever worked with the Finkelstein
8 firm before?

9 A. No.

10 Q. Do you know how you two got connected?

11 A. No.

12 Q. When he contacted you, what was your
13 understanding of your assignment in this case?

14 A. Was to review, provide opinion on the
15 incident that occurred as far as, you know, the
16 cause and factors that effected it and so forth.

17 Q. Did your assignment change -- did your
18 understanding of your assignment change at all
19 throughout your retention by the Finkelstein firm?

20 A. No.

21 Q. I assume you're being paid for your work
22 in this matter?

23 A. Yes.

24 Q. And it's an hourly rate?

25 A. Yes.

1 Q. Is it your usual hourly consulting rate?

2 A. Yes, it is.

3 Q. What is that rate?

4 A. \$170 an hour.

5 Q. How long have you charged that rate?

6 A. Oh, probably -- probably for ten years.

7 Q. About how many hours did you spend
8 writing your report? When I say writing, I mean
9 reviewing, all the work that went into creating your
10 report.

11 A. A lot. I would say about 200.

12 Q. I guess we discussed the number of hours
13 you spent preparing for the deposition is about
14 three full days, correct?

15 A. Yep.

16 Q. Other than writing your report and
17 preparing for the deposition, have you had any other
18 significant amount of time that you've spent on this
19 case?

20 A. Well, we had a meeting in New York to
21 review the parts of the failed cylinder that were
22 returned from OSHA's technical center. We had a
23 site visit at Oprandy's. Those are the two related
24 things that probably took the most time.

25 Q. Sure. How many times have you been

1 retained as an expert in litigation?

2 A. Well, it would be four total. But in two
3 of the cases I wasn't actually retained by the legal
4 firm. I worked with a client as a result of
5 incidents that occurred. So I was actually paid by
6 the client company. In two cases I was retained by
7 the legal firm, this and one other.

8 Q. In terms of those first two cases, you
9 were retained by the client to provide opinions in
10 connection with litigation or for some other
11 purpose?

12 A. It was before there was any litigation,
13 but litigation followed. But there were industrial
14 accidents involving hydraulic equipment and the
15 client had me come in to help them with the
16 investigation.

17 Q. Did you prepare a report in those two
18 cases?

19 A. In one I did. In the other case I had a
20 deposition related to the incident. But in the
21 other case I prepared a report.

22 Q. So in the two cases where you were
23 retained by the firm -- not by the firm, but by the
24 client -- in one of those cases you submitted an
25 expert report and in the other you sat for a

1 deposition? T. TARANTO

2 A. Right.

3 Q. But in the case where you sat for a
4 deposition, you didn't have a report?

5 A. Not a real formal report, no.

6 Q. Did you have any type of written opinions
7 that were submitted to the other side --

8 A. Yeah.

9 Q. -- in the case? You did?
10 Do you recall the names of those cases?

11 A. No.

12 Q. Do you recall what court they were in?

13 A. No.

14 Q. Do you recall the location where the
15 incidents occurred?

16 A. One was in DeWitt, New York. And the
17 other one might have been in East Syracuse, New York
18 or it might have been in DeWitt.

19 Q. Do you recall who retained you?

20 A. Like I say, it was the client company for
21 the incident that occurred.

22 Q. Do you recall which clients those were?

23 A. One was Carrier Corporation. The other
24 was Chrysler Corporation.

25 Q. Do you recall around what year you were

1 retained for each of those cases? No?

2 A. It's in the 1980s, both of them.

3 Q. Okay. And then in that -- this case we
4 don't need to talk about, but obviously we are in
5 other contexts.

6 So there's one where you were retained by
7 the law firm. Do you recall what court that case
8 was in?

9 A. It was in Texas. I don't remember the
10 specifics of which court.

11 Q. Were you retained by the plaintiff or by
12 the defense?

13 A. I was retained by the defense and
14 actually represented two of the defendants. I was
15 working with one originally. The other one decided
16 they wanted me to work with them. We cleared up any
17 conflict of interest between the two of them. So I
18 then went ahead. Ordinarily I would never -- I
19 mean, working for two different defendants, it's --

20 Q. Sure.

21 A. But we resolved that to everyone's
22 satisfaction.

23 Q. The case resolved before trial?

24 A. Yes.

25 Q. Did you sit for a deposition in that

1 case? T. TARANTO

2 A. Yes.

3 Q. Did you testify in court at any point?

4 A. No.

5 Q. Generally, let's start with the case
6 we're talking about now. What were the facts? Not
7 in detail, but what kind of dispute was it?

8 A. What are we talking about?

9 Q. The Texas case.

10 A. The Texas case?

11 Q. Yes.

12 A. It was no personal injury. It was
13 consequential damages related to the failure of a
14 piece of compressed air equipment.

15 Q. Have you ever been disqualified as an
16 expert by any court?

17 A. No.

18 Q. Have you ever had your opinions excluded,
19 whether in whole or in part by any court?

20 A. No.

21 Q. Have you ever been qualified as an expert
22 by a court?

23 A. I guess I don't know what that entails.

24 Q. To your knowledge, has a court ever
25 expressly acknowledged you as an expert witness in a

1 case? T. TARANTO

2 A. What do you mean by expressly
3 acknowledged?

4 Q. Has acknowledged that you are -- sure.
5 Has acknowledged that you are qualified
6 to testify as an expert?

7 A. And who would they acknowledge that to?

8 Q. The court would acknowledge it to the
9 parties.

10 A. Well, I've testified in depositions, so
11 that does constitute an acknowledgement by the
12 court.

13 Q. I guess -- so you have never testified in
14 court.

15 A. No. No. The cases I've been involved
16 with never went to trial.

17 Q. Did you write the report that has been
18 marked as Exhibit 1 yourself?

19 A. Yes.

20 Q. Did anybody assist you?

21 A. No.

22 Q. So now if we look at appendix B of your
23 report --

24 A. Mm-hmm.

25 Q. -- it's the list of materials considered.

1 Are you at your appendix B? TO

2 A. Is this going to take long? Can we take
3 a break now or take a break after this?

4 Q. It will not take long. If it takes long,
5 we'll take a break.

6 Are you relying on any materials that are
7 not listed in your list of materials considered in
8 appendix B?

9 A. No.

10 Q. Are there any treatises or other articles
11 that you're relying on to form your opinions in this
12 case that are not listed in your report?

13 A. No.

14 Q. Did you read all of the materials that
15 are listed in appendix B in your report?

16 A. I think in my report I said I've reviewed
17 these to one degree or another. It says, "This
18 appendix is a listing of materials reviewed as of
19 the time the report was completed. Not all
20 documents are reviewed with equal weight, time and
21 effort. It is possible that the review of some
22 documents may be limited to the identification and
23 cataloging of the document without any additional
24 detailed review."

25 Do you see that first paragraph?

1 Q. Yes. T. TARANTO

2 A. That's what it is.

3 Q. This expert report generally identifies
4 all of the opinions that you plan to make in this
5 case, right?

6 A. Yes.

7 Q. Have you conducted any analyses that are
8 not contained in this report?

9 A. No.

10 Q. Do you have any intention of conducting
11 any analyses that are not contained in this report?

12 A. Not at this time.

13 Q. When you say not at this time, you think
14 that there's a chance that you might conduct an
15 analysis?

16 A. Well, I mean, there's still -- things are
17 still unfolding to a degree. So, I mean, new
18 information --

19 Q. You don't have -- there's no reason to
20 believe you will, you're just saying it could
21 happen?

22 A. Sure, could.

23 MR. KIRKPATRICK: Okay. I think this is
24 a good time for a break. Is five minutes long
25 enough?

1 THE WITNESS: Five minutes is great.

2 MR. WHITELEY: Let's come back at 11:06.

3 (A recess was taken from 11:01 a.m. to
4 11:11 a.m.)

5 Q. Mr. Taranto, at this point we're just
6 going to kind of go through your report roughly in
7 record. I'll ask questions as we go along.

8 A. Okay.

9 Q. I'm starting here at page 10 which is
10 "Construction of the ruptured TFP fire suppression
11 tank."

12 A. Yes.

13 Q. So it's your opinion that what ruptured
14 at Oprandy's was a test tank for the Kitchen Knight
15 II system, right?

16 A. Well, as I discussed in other aspects of
17 the report, it's not a hundred percent clear whether
18 it's for the Kitchen Knight system or the Kitchen
19 Knight II system.

20 Q. It's your opinion -- it's one of those
21 two things?

22 A. Yes.

23 Q. And --

24 A. And it is a test tank.

25 Q. It's a test tank as a component part of

1 either the Kitchen Knight I or Kitchen Knight II
2 system?

3 A. Yeah.

4 Q. And I'll generally refer throughout this
5 deposition as that as the test tank or the subject
6 cylinder as opposed to the source cylinder which
7 would be the cascade system or the agent tank. So I
8 just want to be clear because I tend to jump around
9 a bit.

10 You're not opining in this case on
11 anything related to the physical design of the
12 subject cylinder, are you?

13 A. Only to the extent that it's a 4BW 225
14 psi tank and there was design elements in the code
15 of federal regulations that make that up.

16 Q. But you don't opine that this tank wasn't
17 compliant with those regulations, right?

18 A. Yes.

19 Q. And it was designed in accordance with
20 those regulations, that's basically your opinion?

21 A. Yes.

22 Q. And you're not offering any opinions that
23 the tank was manufactured with a physical defect?

24 A. Correct.

25 Q. And at page 11, I'm still on page 11, you

1 opine -- rather, it's your understanding that
2 Worthington manufactured this tank and sold it to
3 Tyco, right?

4 A. That's what the markings indicate.

5 Q. Do you have any reason to dispute the
6 markings?

7 A. No.

8 Q. Now still on page 11, NFPA standards, I
9 think it makes sense here to talk about all the
10 relevant standards that apply to the subject tank at
11 Oprandy's. You mentioned the DOT rules and
12 regulations apply to the subject tank?

13 A. Yes.

14 Q. And that's because, jumping to page 32,
15 unless you don't need to refresh your recollection,
16 because the DOT regulates compressed gas cylinders
17 under the Hazardous Materials Transportation Act?

18 A. Right.

19 Q. And because this tank was transported,
20 that's where the jurisdiction comes in?

21 A. Yes.

22 Q. And the Department of Transportation's
23 regulations apply to the physical design of the 4BW
24 tanks?

25 A. Yes.

1 Q. And it also sets forth the required
2 markings for the 4BW tanks, right?

3 A. Yes, tank markings on the vessel itself.

4 Q. As you note in your report, the subject
5 tank was also governed by certain standards of the
6 NFPA?

7 A. Yes.

8 Q. And you cite several NFPA standards in
9 your report?

10 A. Yes.

11 Q. NFPA 17A applies to pre-engineered wet
12 chemical fire extinguishing systems, right?

13 A. Correct.

14 MR. KIRKPATRICK: Daniel, if you could
15 mark tab B as Exhibit 2, that would be great.

16 MR. WHITELEY: Yes. Introducing it now.

17 (Exhibit 2, NFPA 17A; 15 pages, marked
18 for identification.)

19 Q. Can you open for me please, sir,
20 Exhibit 2? You may need to refresh your browser.

21 A. Can I have more than one thing opened at
22 a time?

23 Q. I think it will.

24 A. I closed the report.

25 Q. Okay.

1 A. I'm looking for the -- waiting for
2 download.

3 Q. If you have a hard copy of your report,
4 feel free to consult that, too. It's the same
5 thing. I'm working off the hard copy because I'm
6 not good with technology.

7 MR. WHITELEY: NFPA 17A should be in
8 there now.

9 A. Got it.

10 Q. This is the 2013 edition of the NFPA 17A
11 standard?

12 A. Yes.

13 Q. And it's your understanding that this
14 standard applies to the Kitchen Knight system, and
15 that refers to both Kitchen Knight I and II because
16 they are pre-engineered wet chemical fire
17 extinguishing systems?

18 A. Yes.

19 Q. In addition to pre-engineered fire
20 suppression systems this standard also applies to
21 the maintenance of those systems; do I have that
22 right?

23 A. Yes.

24 Q. Now NFPA 17 -- not 17A, 17 -- applies to
25 dry chemical extinguishing systems, right?

1 A. Yes. T. TARANTO

2 Q. And to jump, sorry, back to 17A, NFPA
3 17A, in addition to applying to the system as a
4 whole, it applies to the components of the system,
5 right?

6 A. Correct.

7 Q. NFPA -- because NFPA applies to dry
8 chemical extinguishing systems, do you agree it does
9 not apply to the Kitchen Knight systems?

10 A. I believe under chapter 2 of 17A section
11 2.4 references for extracts and mandatory sections
12 it says -- it lists NFPA dry chemicals. So -- and
13 so in 2.1 it says, "The documents or portions
14 thereof listed in this chapter are referenced within
15 this standard and shall be considered part of the
16 requirements of this document."

17 So since 17 is listed there, that would
18 say that -- NFPA 17 or portions thereof listed in
19 this chapter are referenced within NFPA 17A and
20 shall be considered part of the requirements of NFPA
21 17A.

22 Q. But that's only with respect to the
23 particular portions of 17A that cite to particular
24 portions in 17A?

25 A. Not -- not really. If you look at the --

1 there's a document which is the methodologies for
2 NFPA standards, the writing guide, if you will. I
3 believe it says just what it says is -- effectively,
4 if you were to cut and paste 17 into 17A, that's
5 what they mean by that. 17A is a part of 17.

6 Q. Okay. Does it list any content other --

7 A. It doesn't say this part is or this part
8 isn't.

9 Q. So if you look at -- first of all, if you
10 look at 2.2 of chapter 2 of 17A --

11 A. Yes.

12 Q. -- it lists three standards which are
13 NFPA publications that are referenced and should be
14 considered part of the requirements of this
15 document?

16 A. Right.

17 Q. And NFPA 17 is not listed there?

18 A. No.

19 Q. It's listed in 2.4 which is references
20 for extracts and mandatory sections?

21 A. Right.

22 Q. And then if we look at the third
23 paragraph of the introduction, it says a reference
24 in brackets following a section or paragraph
25 indicates material that has been extracted from

1 other NFPA documents? . TARANTO

2 A. Right.

3 Q. As an aid to the user, the complete title
4 and edition of the source documents for extracts in
5 mandatory sections of the document are given in
6 chapter 2 and for those extracts and informational
7 sections are in annex C?

8 A. Yes. And that is --

9 Q. So --

10 A. And that's -- that's for the -- it's as
11 an aid to the user. So that's where they decided.
12 That's where they decided that they would take
13 something from one and actually put it in here. But
14 it doesn't negate that all of 17 is a part of 17A.
15 It doesn't say that the documents or portion thereof
16 listed in the chapter reference to this standard
17 considered part of the requirements to this
18 document. It doesn't say limited to those
19 specifically listed as mandatory extracts. It's --

20 Q. Why is 17 not listed under 2.2 then, if
21 it's supposed to be incorporated in its entirety?

22 A. I would imagine that they didn't want to
23 be redundant. Because it doesn't say -- it doesn't
24 say that it's -- that only 2.2 is part of the
25 requirements to this document. It says all the

1 documents listed in this chapter are part of the
2 requirements. So --

3 Q. But it does say --

4 A. So whether it's listed under 2.2 or 2.4
5 doesn't make any difference.

6 Q. It says the documents or portions thereof
7 listed in this chapter?

8 A. Yes.

9 Q. 2.4 says references for extracts and
10 mandatory sections?

11 A. Right. That's just the parts -- that's
12 the parts that they decided to copy in their
13 entirety into this document.

14 Q. You think that's clear from the text of
15 the document?

16 A. And the writing guide and the fact that
17 if you look at it -- if we find a part that's
18 bracketed with 17.

19 Q. Okay. Right.

20 A. It has a bracketed note by it and it
21 references 17. And that's just -- that's just the
22 piece that they decided to put in here in its
23 entirety.

24 Q. Oh, okay.

25 A. It's an extract.

1 Q. We might be saying the same thing.

2 You're not saying 17 is incorporated in its
3 entirety, or are you?

4 A. It is. Parts -- there's parts of 17 that
5 they decided to put in here.

6 Q. And be redundant?

7 A. And to aid the user, they're culling
8 those out and they're giving you the source
9 document. It's only as an aid to the user.

10 If you look at the introductory paragraph
11 that you just read, it says, "A reference in
12 brackets following a section or paragraph indicates
13 material that has been extracted from another NFPA
14 document. As an aid to the user, the complete title
15 and edition of the source document for extracts in
16 mandatory sections of the document are given in
17 chapter 2." But it doesn't say "and you can ignore
18 the rest of the standard."

19 MR. KIRKPATRICK: Daniel, let's look
20 at -- can we mark tabs C and D as Exhibits 3
21 and 4, please.

22 (Exhibit 3, NFPA 10; 64 pages, marked for
23 identification.)

24 (Exhibit 4, NFPA 17; 29 pages, marked for
25 identification.)

1 MR. WHITELEY: Entering tab C now as
2 Exhibit 3. Exhibit 3 has been introduced. And
3 Exhibit 4 has been introduced.

4 Q. Exhibit 3, if you look, it's NFPA
5 10-2013, right? Are you able to pull that up?

6 A. Yeah.

7 Q. And if you can look at Exhibit 4.
8 Exhibit 4 is NFPA 17-2013. If you can just confirm
9 those are the documents you're seeing?

10 A. Well, I haven't figured out how to open
11 two documents at the same time.

12 Q. If you right click. You can download
13 them, too, if you'd like. If you right click.

14 A. Did you put 17 up, too?

15 Q. I believe Exhibit 4 is 17. You may need
16 to refresh again.

17 A. How do I get back to the main screen to
18 refresh? 4 is 17.

19 Q. Aside from the standard, I just want to
20 take a step back. NFPA standard 17 and 17A apply to
21 permanently installed systems for fire
22 extinguishing, right?

23 A. Yes.

24 Q. My next question is, NFPA 10 applies to
25 portable fire extinguishers, right?

1 A. Yes. T. TARANTO

2 Q. Do you agree that the test tank is not a
3 portable fire extinguisher?

4 A. Yes.

5 Q. Do you agree the test tank is not a
6 portable fire extinguisher?

7 A. Yes.

8 Q. Do you agree that the NFPA 10 does not
9 apply to the Kitchen Knight or its component parts?

10 A. No.

11 Q. Let's look at NFPA 10.

12 Is the reason that you believe that NFPA
13 10 applies to the Kitchen Knight system because in
14 here again at 2.4 it says references for extracts
15 and mandatory sections and it lists those standards?

16 A. Yes.

17 Q. So if we look at --

18 A. But specifically reference for extracts
19 is there as an aid to the user.

20 Q. Right.

21 A. So it's an aid. It's an aid. It's like
22 I'm telling you, hey, this is where this came from.

23 Q. Yes, I agree. Yes.

24 A. Okay. The main point here is --

25 Q. If I can just ask the questions. We'll

1 go through this piece by piece.

2 A. Okay. Okay.

3 Q. So if you look at -- we're looking at
4 NFPA 10, chapter 1, 1-1. Do you agree that it says,
5 "The provisions of this standard apply to the
6 selection, installation, inspection, maintenance,
7 recharging and testing of portable fire
8 extinguishers and class D extinguishing agents"?

9 A. Yes.

10 Q. And then 1.1.2, it says, "The
11 requirements shall not apply to permanently
12 installed systems for fire extinguishers even where
13 portions of such systems are portable."

14 Do you see that?

15 A. Yes.

16 Q. Do you still believe that NFPA 10 applies
17 to the Kitchen Knight system?

18 A. Yes.

19 Q. Because of 2.4?

20 A. No.

21 Q. Then why --

22 A. Because of 2.1. 2.4 is just for aid to
23 the user. Okay.

24 So for the aid of the user, we're telling
25 you where the mandatory extracts are. Section 2.1

1 we could substitute any standard in chapter 2 into
2 that sentence. So the first standard listed is NFPA
3 1. Documents or portions thereof listed in this
4 chapter. So we can say NFPA 1 listed in this
5 chapter are referenced within this standard, within
6 NFPA 10, and should be considered part of the
7 requirements of NFPA 10.

8 So the way it reads is, "NFPA 17A
9 standard for wet chemical extinguishing systems or
10 portions thereof are referenced within NFPA 10 and
11 shall be considered -- shall be considered -- part
12 of the requirements of NFPA 10."

13 So, if we were to cut and paste this
14 together and if we were to look at the scope of 17A,
15 the scope of the 17A says, "the provisions of this
16 standard apply to design" --

17 (Court reporter requested clarification.)

18 A. "The provisions of this standard apply to
19 the design, installation, operation, testing and
20 maintenance of pre-engineered wet chemical fire
21 extinguishing systems that discharge wet chemical
22 from fixed nozzles and piping by means of an
23 expellent gas."

24 Q. And if I can just ask a question.

25 A. "It contains only the essential

1 requirements and recommendations needed to make the
2 standard workable in the hands of those skilled in
3 the field."

4 Q. I have a question. I'm not sure what
5 question is pending. If I could just ask the
6 question here.

7 Based on the scope that you just read, do
8 you agree that that would be contradictory of the
9 scope listed in NFPA 10 --

10 A. No.

11 Q. -- which says that the requirements shall
12 not apply to permanently installed systems?

13 A. No.

14 Q. And why are those not contradictory?

15 A. Because 2.1 tells you that 17A is now
16 part of 10.

17 Q. Okay.

18 A. So therefore -- so, therefore, if we were
19 to do a cut and paste, we would have section 1.1,
20 scope applies to portable extinguishers, and then we
21 would add scope from 17A which says the document
22 also applies to wet chemical systems. Because it
23 tells you that 17A is not stand-alone. 17A is part
24 of 10. And you don't get to ignore parts of 10.

25 Q. Even those that are contradictory?

1 A. They're not contradictory because it's
2 all the same document. In other words, when you --
3 when you invoke 17A, you're extending the scope
4 beyond dry fire extinguishers to include wet
5 systems.

6 Q. In terms of NFPA 10 --

7 A. We're not talking about NFPA 10 anymore.
8 We're talking about 10 and 17 as a part of 10.

9 Q. NFPA 10, NFPA 17 and NFPA 17A all apply
10 to portable fire extinguishers, wet pre-engineered
11 fire suppression systems and dry pre-engineered fire
12 suppression systems?

13 A. Only when you're considering 17A.

14 Q. And why is that?

15 A. Because if it's not a wet chemical
16 system, then 10 stands alone. But if it is a wet
17 chemical system, 17A becomes part of 10. You don't
18 throw 10 out.

19 Q. You introduced 10 because it's listed in
20 chapter 2?

21 A. You don't introduce 10. You bring 17A
22 into 10. It tells you NFPA 17A "Standard for wet
23 chemical extinguishing systems, all portions
24 thereof, are referenced within NFPA 10 and shall be
25 considered part of the requirements of NFPA 10."

1 Q. If NFPA 10 does not apply to permanently
2 installed systems, then how could anything in NFPA
3 10 including incorporation by reference apply to
4 permanently installed systems?

5 A. Because you said we're going to adhere to
6 17A. If you adhere to 17A, it becomes part of 10.

7 Q. If you look at 17A, it does not list NFPA
8 10?

9 A. No, because it doesn't go the other way.

10 Q. Right.

11 A. It says that 17A becomes part of NFPA 10.

12 Q. Okay.

13 A. It does not say that NFPA 10 becomes part
14 of 17A. Because if you're only dealing with dry
15 extinguishers, then there's no need for 17A. But
16 all --

17 Q. You mean portable fire extinguishers?

18 A. If you're only dealing with portable fire
19 extinguishers, you don't need 17A. As soon as you
20 introduce 17A, it becomes part of NFPA 10.

21 Q. When you say introduce 17A, what do you
22 mean by that?

23 A. You're dealing with a wet chemical
24 system, so 17A applies.

25 Q. So 17A applies.

1 A. So when 17A applies, you go to 10. It
2 says 17A has to be part of 10.

3 Q. Can I ask why you would go to 10 if 17A
4 applies, if 10 is not listed in chapter 2 of 17A?

5 A. Because 17A is listed in chapter 2 of 10.

6 Q. So it does go both ways?

7 A. No. If you only deal with dry -- if
8 you're only dealing with portable fire
9 extinguishers, you have no need to look at 17A.

10 Q. Then why is it incorporated in 10, but
11 not in 17A? By the way, I'm not agreeing it's
12 incorporated. But I'm just saying, if it's
13 incorporated in 10, why is it not incorporated in
14 17A?

15 A. Because 10 isn't listed in 17A. And
16 17 -- you're not incorporating 10 into 17A. You're
17 incorporating 17A into 10.

18 Q. Okay. So anything covered by 10 would
19 also be covered by 17A but not everything covered by
20 17A is covered by 10?

21 A. Right. A wet chemical system, a wet
22 chemical system only becomes a part of NFPA 10 if
23 you're dealing with a wet chemical system. If
24 you're dealing with portable extinguishers, 17A is
25 irrelevant. But as soon as you have a wet chemical

1 system, 17A is considered to be a part of the
2 mandatory requirements of 10.

3 Q. Do you agree standing alone under --
4 strike that.

5 So it's your contention that NFPA 10,
6 NFPA 17, and NFPA 17A all apply to the Kitchen
7 Knight system?

8 A. Yes. Because in chapter 2 --

9 Q. Yes, I understand your reasoning. I
10 just --

11 (Court reporter requested clarification.)

12 A. -- of 17A --

13 Q. Mr. Taranto, I understand your reasoning.
14 I just want to confirm that that's what you were
15 saying.

16 A. 17 becomes part of 17A. And in chapter 2
17 of NFPA 10, 17A becomes part of 10.

18 If they wanted to -- and they could
19 charge a lot more money, because what they could do
20 is they could create a single document with all
21 three documents melded together and then they could
22 say, okay, this is what you need. But then there's
23 a lot of extraneous information in there if you're
24 only dealing with portable fire extinguishers, and
25 it would be a pain in the neck to use.

1 Q. But if you're dealing with a wet chemical
2 suppression system, you're saying it would make
3 sense to add all that, because they all apply?

4 A. Yes. Because 17A doesn't stand alone. I
5 mean, the labeling of a -- of the tanks with the
6 gross weight and the material that goes in it and
7 all those things that are requirements, those are in
8 NFPA 10. They're not in 17A.

9 Q. Why are there, for example, NFPA 10, why
10 are there extracts from those standards, NFPA 17 and
11 17A within NFPA 10? Wouldn't that be completely
12 superfluous?

13 A. No. It says in the introduction that you
14 referenced to, it says as an aid to the user, the
15 complete title and edition of source documents for
16 extracts in mandatory sections are given.

17 Q. Right.

18 A. But they just do that as an aid to the
19 user.

20 Q. It doesn't say that the extracts are an
21 aid to the user. It says that the complete title
22 and edition of the source documents are an aid to
23 the user?

24 A. Yes. So you know where the extract came
25 from.

1 Q. Right. Exactly. TO

2 A. But still -- in 2.1 it doesn't say the
3 documents or portions listed in chapter 2 are only
4 with respect to extracts' part of the standard. It
5 says the whole document is part of the standard.

6 Q. Do we agree that NFPA 17 and NFPA 17A
7 each list each other? So NFPA 17 lists 17A and vice
8 versa in chapter 2?

9 A. Yes.

10 Q. If they're both part of each other, why
11 wouldn't you have one standard, 17, and it applies
12 to wet and dry chemical systems?

13 A. That's a good thing to ask the
14 committees. I mean --

15 Q. Okay. If we now look at -- I'm going to
16 move on to other standards that apply.

17 Do you agree that the test tank is
18 subject to certain standards of the Compressed Gas
19 Association?

20 A. Yes.

21 Q. And that includes CGA P-1-2015 and which
22 is entitled Standard For Safe Handling of Compressed
23 Gases and Containers?

24 A. Yes.

25 MR. KIRKPATRICK: Daniel, can you

1 introduce tab E as Exhibit 5.

2 (Exhibit 5, CGA P-1-2015; 29 pages,
3 marked for identification.)

4 MR. WHITELEY: Introducing it now. It's
5 loaded in as Exhibit 5.

6 A. I think I'm figuring out how to do this
7 now. Look at that. I got it.

8 Q. Do you agree that as defined in this
9 standard, Oprandy's Fire Protection was the gas
10 supplier for purposes of the test tank?

11 A. Well, I'm not --

12 Q. You can look at --

13 A. I'm not so sure about that.

14 Q. I'm looking at 3.2.15 which is the
15 definition of gas supplier.

16 A. Yes.

17 Q. Do you agree that Oprandy's was a
18 business that filled compressed gases?

19 A. Well, they -- I don't know if that's
20 their business. That's like saying --

21 Q. They are a business, right?

22 A. That's like saying if a car dealer puts
23 gasoline in the tank of a car so they could do a
24 test drive, are they now an energy supplier like
25 British Petroleum or ExxonMobil.

1 Q. I think that would depend on the
2 definition of energy supplier?

3 A. Right, so I think it depends on the
4 definition of the business. Oprandy's -- Oprandy's
5 Fire & Safety, they're a fire and safety company.

6 Q. Right.

7 A. That's the --

8 Q. If, for example, Tyco, which ships agent
9 tanks filled, they're not a gas company.

10 A. No. But they put gas in the tanks.

11 Q. Okay.

12 A. So the tanks have nitrogen in them.

13 Q. So --

14 A. So, you know, I don't know -- I don't
15 know that that is really the business. It's just
16 like, for Tyco, you know, Praxair or Linde or
17 Air Liquide, they'll ship you a tractor-trailer full
18 of nitrogen. Gas supply.

19 Tyco because they put a little bit of
20 nitrogen in a tank, does that make them a gas
21 supplier?

22 Q. If it says here in the definition of gas
23 supplier, it's a business, it doesn't say a gas
24 business, it's a business that produces, fill and/or
25 distributes compressed gases.

1 A. It doesn't say a business. It says
2 "business that produces, fills and/or distributes
3 compressed air gases."

4 And if you went to people familiar with
5 Oprandy's or if you went to people familiar with
6 Tyco, and you said what is Tyco's business, you
7 would say who's going to say gas supplier?

8 Q. And that's the standard you would use,
9 the average person on the street, would they call
10 them a gas supplier?

11 A. Yeah, would a reasonable person say, oh,
12 yeah, they're a gas supplier.

13 Q. That's how you contend the CGA is a gas
14 supplier?

15 A. That's what it says.

16 (Court reporter requested clarification.)

17 A. Your business is being a gas supplier.
18 And I would add like an Air Liquide or Linde or
19 Praxair. I mean, there's companies that's what they
20 do.

21 Q. For purposes of this standard -- rather,
22 for purposes of this testing, there was no gas
23 supplier, in your opinion?

24 A. It's not their business. It's not --
25 people --

1 Q. My question is just, it's just a yes or
2 no. Do you contend that for purposes of the tank
3 that we're talking about today, there was no gas
4 supplier?

5 A. Yeah, I don't think there was. Because
6 the tank was introduced to the market as a fire
7 protection tank. And it was used as a fire
8 protection tank and the business of the company was
9 the fire protection business.

10 Q. It's your contention that the CGA
11 standards apply only to, for example, the
12 Air Liquides of the world?

13 A. Yeah, I -- or it says they're
14 distributors, fills or distributes compressed gases.
15 So I would say that it -- their chain falls under
16 that.

17 Because you pump up the tires of your car
18 with gas, with air, doesn't make an automotive
19 dealership a gas supplier.

20 Q. So if Halliburton ships massive
21 containers of gas, because they don't specialize in
22 gas, they are not a gas supplier?

23 A. I don't know. Do they specialize in gas?

24 Q. No. I'm saying because they don't
25 specialize in gas, they would not be a gas supplier?

1 A. Do they ship containers of gas?

2 Q. I'm using a hypothetical.

3 A. That doesn't make any sense. I mean --

4 Q. Why not?

5 A. If somebody ships big containers of gas,
6 I would suppose an element of their business is
7 being a gas supplier, yeah.

8 Q. It's an element of their base?

9 A. If you put air in the tires of your car,
10 you're not a gas supplier. If you put gas in the
11 tank of your car, you're not an energy supplier.

12 Q. I'm just trying to think of a big company
13 that would sell compressed gas in containers. But
14 does not specialize --

15 A. Let's take, for instance, United
16 Technologies.

17 Q. So United Technologies, I actually don't
18 know what they do.

19 A. Have you ever heard of Carrier Air
20 Conditioning?

21 Q. Sure.

22 A. Okay. Carrier Air Conditioning is a
23 division of United Technology. They ship freon in
24 bottles. So a portion of their business is
25 supplying freon gas in tanks so in that part of

1 their business, yeah, they would be a gas supplier.
2 You need to fill it up with gas, who do you call.
3 I'm going to call Carrier.

4 Q. Would it make sense -- obviously I know
5 you didn't write the standards -- would it make
6 sense for the standards to apply only to businesses
7 that specialized in gas supply as opposed to
8 business that fill or produce gases?

9 A. You know, I'm not making an opinion about
10 that. I'm just saying it says business that
11 produces, fills and/or distributes compressed gases.
12 That's what it says.

13 Does Oprandy's fit that description? No.
14 They're a fire protection company.

15 Q. But they were filling gas on the day that
16 the accident occurred?

17 A. Yep. And automotive fills the tank of
18 gas on the car to put it through a test drive. So
19 if an accident occurred when they did that, does
20 that make them British Petroleum or ExxonMobil?

21 MR. KIRKPATRICK: Daniel, can you
22 introduce tab F as Exhibit 6.

23 (Exhibit 6, CGA C-7-2014; 166 pages,
24 marked for identification.)

25 MR. WHITELEY: Introducing now. It's

1 loading now. T. TARANTO

2 (Discussion held off the record.)

3 Q. I just want to confirm that CGA C-7-2014
4 which is the guide to classification and labeling of
5 compressed gases, that also applies to the subject
6 tank?

7 A. Yes.

8 MR. KIRKPATRICK: Daniel, if you could
9 now do tab 8.

10 MR. WHITELEY: Introducing it now.

11 (Exhibit 7, extracted portions of 2020
12 NYS Fire Code; 12 pages, marked for
13 identification.)

14 MR. FROMSON: Exhibit 7. I probably have
15 about 15 minutes to a stopping point and then
16 maybe we can take a 15, 20-minute lunch break
17 if that works for everybody. It's now been
18 introduced.

19 Q. This is, it's not the whole thing,
20 despite how long it took. This is extracted
21 portions of the 2020 New York State Fire Code. If
22 you can just confirm the document once you've got it
23 opened?

24 A. Yeah, I've got it opened.

25 Q. This is the 2020 fire code?

1 A. Yes. T. TARANTO

2 Q. We can agree the fire code also applied
3 to the subject tank?

4 A. It applies to the system. I don't know
5 that there would be a specific point in this where
6 it would apply to the component of the tank.

7 Q. Let's turn to --

8 A. I mean, I'd have to look at it in some
9 detail.

10 Q. Turn to page 391. I've tried to shortcut
11 it a little bit. This is chapter 53. And it's
12 compressed gases.

13 A. Right.

14 Q. And it says under "scope" it says,
15 "Storage use and handling of compressed gases and
16 compressed gas containers, cylinders and tanks and
17 systems shall comply with this chapter."

18 A. But does it say -- well, the test tank
19 has only gas in it. The agent tanks have other
20 stuff in it.

21 Q. Right. So I'm just talking about the
22 test tank.

23 A. Right. Right. Okay.

24 Q. So you agree that chapter 53 applies to
25 the tank that we're talking about today?

1 Could I ask for the record, are you
2 reviewing something else to answer?

3 A. I'm looking to see if NFPA 55 is a
4 mandatory component of NFPA 10 and it's not. So I
5 don't know. I guess I'd have to research it more
6 before I could say yes for sure. It would stand to
7 reason if NFPA 55 applied it would be referenced in
8 10, in chapter 2.

9 Q. I'm not talking about NFPA. I'm just
10 talking about the fire code and whether it applies
11 to the cylinder at issue. So this says that, "The
12 storage, use and handling of compressed gases in
13 compressed gas cylinders, containers, cylinders
14 tanks and systems, shall comply with this chapter."

15 A. Okay. Let's say it does. I still, you
16 know --

17 Q. Do you have any reason to think it
18 doesn't apply?

19 A. Well, it's not listed -- NFPA 55 is not
20 referenced in NFPA 10.

21 Q. Why would that --

22 A. I said --

23 (Court reporter requested clarification.)

24 A. I said I'd like to resolve that. NFPA 52
25 is and NFPA 59A is.

1 Q. Can you explain why that's relevant to
2 whether the fire code applies to the tank?

3 A. Well, because fire codes a lot of times
4 apply to the system.

5 Q. Yeah. This says that containers,
6 cylinders, tanks and systems.

7 A. Yeah. So let's say it does. Again --

8 Q. I want to make sure you agree with me.

9 A. Let's say I agree. I don't know if I --
10 I don't know that I agree a hundred percent. It
11 certainly appears that way looking at this one
12 paragraph.

13 Q. And then if you turn to page 100 which is
14 only a couple of pages before.

15 A. So the numbers are in order, they're just
16 skipping some.

17 Q. Exactly. This is chapter 9 entitled
18 "Fire Protection and Life Safety Systems." Do you
19 agree that this applies to the Kitchen Knight
20 system?

21 A. Yes. Wet chemical extinguishing systems
22 17A is listed there.

23 Q. These standards apply to --

24 A. The system --

25 (Simultaneous crosstalk.)

1 Q. The New York fire code, do you come
2 across this in your work as a volunteer firefighter
3 or in any other capacity?

4 A. I've been involved with the New York Fire
5 Code at times. I've had to reference it, but never
6 on this subject.

7 Q. Are you aware it adopts the International
8 Fire Code with some amendments?

9 A. Yeah.

10 Q. Are you familiar with the International
11 Fire Code?

12 A. No, I'm not.

13 Q. Are you aware it's widely adopted by
14 jurisdictions?

15 A. Yes.

16 Q. Now, if we could turn back -- sorry, I'm
17 just going back to -- there's some construction
18 going on here -- to what we were looking at before
19 which is chapter 53, 5303.2 says -- assuming -- and
20 I understand you're saying you're not sure. But
21 based on this document that it applies to the test
22 cylinder.

23 This says, "Compressed gas containers,
24 cylinders and tanks shall be designed, fabricated,
25 tested and marked with the specifications of the

1 manufacturer and maintained in accordance with the
2 regulations of the DOT standards?

3 A. Where are you?

4 Q. 5303.2.

5 A. 5303.2. Sorry. I'm with you.

6 Q. Okay.

7 A. Yep.

8 Q. I just want to -- you agree that the
9 New York Fire Code says that the compressed gas
10 containers should be designed, et cetera, in
11 accordance with DOT standards?

12 A. Right. Or the -- or the ASME.

13 Q. Yes. And then if you look at 5303.4.2?

14 A. Right.

15 Q. It says that portable containers,
16 cylinders and tanks shall be marked in accordance
17 with CGA C-7?

18 A. Yes.

19 Q. And then one more. It's the very last
20 page of this document. It's under section 5305
21 which is use and handling of compressed gases. So
22 this is 5305.7.

23 So I'm just asking, do you agree that the
24 New York Fire Code says that when you are
25 transferring gases between containers you should --

1 it shall be performed by qualified personnel using
2 equipment and operating procedures in accordance
3 with CGA pdf 1?

4 A. Yes.

5 Q. We'll put the fire code aside just for
6 the moment.

7 Do you also agree that OSHA standards
8 apply to Oprandy's handling of the tank?

9 A. Yes.

10 Q. And that those standards incorporate by
11 reference the CGA pamphlets that we've been
12 discussing?

13 A. Yes.

14 Q. We discussed the DOT, the NFPA, CGA, the
15 fire code and OSHA. Are there any other sets of
16 regulations or industry standards that your report
17 is based on?

18 A. No.

19 Q. Is it fair to say there's a lot of
20 regulations that apply to compressed air cylinders?

21 A. Oh, yes.

22 Q. That's because they can be dangerous if
23 they're mishandled?

24 A. Yeah.

25 Q. And can rupture if they're overfilled?

1 A. Yes. T. TARANTO

2 Q. And can cause serious injuries?

3 A. Yes.

4 MR. KIRKPATRICK: I think this is a good
5 stopping point off the record. Is 20 minutes
6 enough for people?

7 MR. FROMSON: That's fine. Thanks.

8 MR. KIRKPATRICK: Let's be back at 12:25.

9 (A recess was taken from 12:05 p.m. to
10 12:29 p.m.)

11 BY MR. KIRKPATRICK:

12 Q. Mr. Taranto, I just want to jump back to
13 something we talked about earlier.

14 In discussing the incorporation by
15 reference in the various NFPA's, you mentioned a
16 manual of style for interpreting NFPA documents,
17 right?

18 A. No.

19 Q. What document did you reference?

20 A. I'm chairman of one of the ASME
21 committees for compression system efficiency. For
22 any standards, they publish -- NFPA calls it manual
23 of style for NFPA committee documents.

24 Q. I may have misspoken. Can you look at
25 Exhibit 8 which has been marked by our friend

1 Daniel. T. TARANTO

2 THE WITNESS: We stopped at 7, right?

3 MR. KIRKPATRICK: Yes. It's marked but
4 if you refresh it should be there.

5 (Exhibit 8, Manual of Style for NFPA
6 Technical Committee Documents; 43 pages, marked
7 for identification.)

8 Q. I just want to confirm that this is the
9 document that you're talking about for the NFPA?

10 A. Yeah. Yeah. All the standards -- any
11 standards may have specific guidelines that the
12 committees use. Because all the committees are all
13 different members. But they want consistency to the
14 standards. So in this particular document it
15 references that chapter 2 should always be
16 references to mandatory documents. If there's no
17 mandatory documents, then you don't rename something
18 else chapter 2. They give you those guidelines.

19 Q. So this and the text of the NFPA
20 standards themselves are how you interpret those
21 standards?

22 A. Yeah. Pretty clearly says that the terms
23 may and may not -- shall not be used. It says
24 that --

25 Q. I --

1 A. You should use mandatory terms in chapter
2 2 and so forth. So you, you know, because if you
3 get sloppy and say may or should or whatever, then
4 should isn't a requirement. Shall is a requirement.
5 So this is -- chapter 2 is a mandatory section.

6 Q. I just wanted to make sure this is the
7 document you're referring to. I don't want to go
8 through it all.

9 A. Yeah.

10 Q. Turning back to your report, believe it
11 or not, I think we'll start going quicker. I hope.
12 We're on page 12.

13 A. Where did they start, page 11?

14 Q. Page 10, I think. I hope at least we'll
15 go faster.

16 So you at one point before discussed the
17 manufacturer's duty to warn. And you say that Tyco
18 has the responsibility to meet various specific
19 codes and standards associated with the restaurant
20 fire -- kitchen fire suppression system.

21 The specific codes, are those the ones
22 we've been talking about?

23 A. Yes.

24 Q. Then you say "In addition, manufacturers
25 have the more general obligation to provide adequate

1 warnings for dangers associated with the use of
2 their products"?

3 A. Yes.

4 Q. First, to what manufacturers do you
5 refer? Is that a manufacturer of any product?

6 A. Manufacturer of hair dryer, coffee pot.

7 Q. Any product. And does it extend beyond
8 manufacturers to anyone who sells the product or
9 handles the product?

10 A. You know, I don't know. The reference
11 that I used is listed in the back. It was Thomson
12 Reuters corporate.FindLaw.com. "Legally Adequate
13 Warning Labels: A Conundrum For Every
14 Manufacturer." And there's a web address in the end
15 notes that references where that is.

16 Q. So you're not opining that manufacturers
17 have the standard? You're just treating it as an
18 assumption that this is the standard based on that
19 source?

20 A. Yes. Based on that source. And any
21 product you buy, you have warnings, you know, don't
22 use the hair dryer in the bathtub and so forth and
23 so on. So it's -- I guess, is it general knowledge
24 or -- and specifically that reference.

25 Q. But this is a -- I guess what I'm getting

1 at, this is a legal -- you're talking about a legal
2 obligation, not something in a standard somewhere?

3 A. Yeah. Yeah. I'm talking about a legal
4 obligation which is --

5 Q. You're not opining -- you're not opining
6 on what the law is?

7 A. No. I'm just referencing that and
8 saying, you know, here's the statement of what
9 manufacturers are responsible to do according to
10 that reference.

11 Q. Believe it or not, we're skipping ahead
12 to page 15.

13 A. All right. Of course, 13 and 14 are
14 mostly blank.

15 Q. And I don't have much on this case. This
16 is the incident and investigation.

17 A. Right.

18 Q. And not only here, but you cite
19 throughout your report the OSHA report that was
20 prepared in connection with the incident at
21 Oprandy's?

22 A. Right. That was one of the primary
23 documents of the investigation and this is just a
24 chronicle of, you know, how things happened and
25 according to the reports and the record. Obviously

1 I wasn't there to witness it, so, these aren't my
2 observations.

3 Q. Sure. In going through the OSHA report,
4 was there anything in it that you did not agree
5 with?

6 A. No. And I think I made a statement to
7 that effect that the conclusion of the failure being
8 caused by overpressurization, I didn't observe any
9 evidence that there was corrosion or any other
10 issues and so forth. I said I agree with the Salt
11 Lake City technical lab's findings, direct cause is
12 overpressurization.

13 Q. Are there any other findings, whether
14 they're in this section or not, that you recall
15 reading that you did not agree with in the OSHA
16 report?

17 A. Not that I recall.

18 Q. If you look at 1.4.1 which is on the next
19 page --

20 A. Yep.

21 Q. -- you say that the Poseidon cascade
22 system includes a multi-stage air-cooled
23 reciprocating air compressor. And then you
24 say there are also four compressed air cylinders.
25 You say you've used a system like this, right?

1 A. Yes. T. TARANTO

2 Q. When was this?

3 A. A lot through the whole 1980s and late
4 1990s.

5 Q. Is it fair to say that the system that's
6 used at Oprandy's as you described here was a
7 high-pressure system?

8 A. Yes.

9 Q. And you agree that it is appropriate for
10 filling high-pressure tanks?

11 A. Yes.

12 Q. And the regulator in the system was also
13 a high pressure regulator?

14 A. It accepts high pressure at the inlet,
15 yes. Yes. It regulates to a lower pressure at the
16 outlet.

17 Q. But in terms of, you know, its ability to
18 finally set the outlet pressure, it's a regulator
19 that's more appropriate for a high-pressure system
20 than a low pressure system?

21 A. No. I mean, it could regulate to
22 pressures under 500 psi, which is kind of where we
23 do the cutoff.

24 Q. Any in the low pressure system, you think
25 that regulator would have been appropriate?

1 A. In other words, you're going to take a
2 6,000 psi regulator and put 500 psi at the inlet?

3 Q. Right.

4 A. You would get a regulator that has
5 more -- best practice would be to get a regulator
6 that's going to design for something closer to the
7 inlet pressure you're going to run it. I suppose
8 there's no reason you couldn't put -- because it
9 would regulate. But I mean -- it could do it. But
10 it wouldn't be a best practice to design a system
11 like that.

12 Q. Do you agree that the higher pressure
13 rating for a regulator, the more difficult it is to
14 get an exact number of outlet pressure in a low
15 pressure environment?

16 A. Depends on whether it's a single stage or
17 two-stage regulator.

18 Q. Can you just explain that a little bit?

19 A. Well, on a single stage regulator, as the
20 pressure is reduced at the inlet, pressure at the
21 outlet tends to creep up some. And then you've got
22 to readjust.

23 Whereas a two-stage regulator instead of
24 going from inlet to outlet pressure all in one pass,
25 it regulates to a lower pressure at the final

1 pressure. Those are more stable with respect to
2 changing inlet pressure conditions.

3 Q. Let's turn all the way -- we may jump
4 back, but let's turn all the way to 42.

5 This discusses your root cause analysis.
6 Am I right to say that the methodology for your
7 report is a root cause analysis?

8 A. Yes.

9 Q. Can you just describe what that is?

10 A. Well, paragraph 1, it's a cause-effect
11 evaluation of factors where the result is an
12 occurrence to an undesirable effect. The dictionary
13 defines cause as something that brings about an
14 effect or result. Root is something that's an
15 origin. It discusses the ICA methods. I think I
16 make reference to the DOE, root cause analysis
17 guidance document, which is an authoritative
18 document which was originally developed for root
19 cause analysis in nuclear power plants.

20 Then I have a reference to books that I
21 have on the subject.

22 Q. Basically this 5.2 is your description of
23 what your description of root cause analysis is?

24 A. Yes, and the documents referred to there.

25 Q. Is the Department of Energy who

1 originally developed this methodology?

2 A. I don't know. They used a similar
3 methodology in designing systems in a Six Sigma
4 world. And you do failure FMEA, failure mode effect
5 analysis.

6 When we're designing something, what if
7 this happens, what's the outcome. What if this
8 happens, what's that outcome. Six Sigma has a lot
9 of those elements of that kind of analysis. Whether
10 DOE was first and the nuclear power plant was the
11 impetus for it, I couldn't say for certain. They
12 were certainly early influences of it, yes.

13 Q. This Department of Energy document that
14 you rely on that sets forth the methodology, that
15 describes the methodology as you understand it?

16 A. And as I said in here, there's various
17 RCA methods. Methods and definitions vary based --
18 (Court reporter requested clarification.)

19 A. There are various RCA methods. Methods
20 and definitions vary based on the technology,
21 purpose and organization or guiding body employing
22 the RCA method.

23 These methods recognize that there may be
24 multiple root causes associated with an event. It's
25 also commonly accepted that as described in the U.S.

1 Department of Energy root cause analysis guidance
2 document and there's a DOE identification number.
3 "A chain or cause and effect sequence in which a
4 specific action creates a condition that contributes
5 to the results or an event. And the chain or
6 sequence of tasks and/or actions and the surrounding
7 conditions leading to an occurrence includes
8 contributing factors that they alone do not directly
9 cause an event but rather contributing factors may
10 increase the probability that an event will occur or
11 increase the severity of that should it occur."

12 So, you know, there's not one thing you
13 can point to is and say this is the RCA method.

14 Q. Okay. So it just varies completely
15 depending on context?

16 A. And the guiding body. Because there's
17 certain standards and stuff that discuss RCA and
18 they have certain things in mind or if you're --

19 Q. Are there standards that apply
20 specifically to the context of compressed air
21 systems?

22 A. Yeah.

23 Q. And what are those standards in terms of
24 the root cause analysis?

25 A. Oh, no.

1 Q. That's why you use the Department of
2 Energy standard?

3 A. Yes, root cause is a methodology. And
4 the methodology varies depending upon, you know,
5 what you're trying to accomplish and who you're --
6 who is trying to accomplish it and the goals they
7 set. The methodologies vary some. So there's not a
8 single thing that you could say is the gold standard
9 for RCA.

10 Q. And in what contexts -- have you used the
11 RCA methodology before?

12 A. Yeah. Yes. Excuse me. Yes.

13 Q. How many times?

14 A. Oh, many times. I don't know. A dozen.

15 Q. In what contexts have you used the RCA
16 method?

17 A. Well, I worked on a Six Sigma project for
18 General Electric where we developed a liquid fuel
19 control unit for delivering fuel to the 8 series
20 turbines. These are the big jet engines that they
21 use for power plants and they operate on natural gas
22 or they can operate on various liquid fuels like jet
23 fuel or bunker oil or number two. This particular
24 unit was designed to operate on NAFA.

25 As you go through the design process for

1 every critical system or subsystem, you do this
2 failure effect mode analysis meeting where you look
3 at different components of the system, what if this
4 fails, then this happens, that happens. What's the
5 outcome. Is it, you know, a bad day at work or did
6 we just destroy the turbine. Then you score it.
7 Then you have to either go back and redesign so
8 either it's less likely that the event will happen
9 or the outcome is less severe. You know, it's a
10 whole process. And it uses RCA methods built into
11 the FMEA.

12 Q. When you're doing root cause analysis,
13 it's usually forward looking to prevent accidents,
14 do I have that right?

15 A. No, it's backward looking after something
16 occurs, too. Like the case in Texas. You know,
17 there ended up being a fire and a significant amount
18 of damage. And things that affected that, some of
19 the things preceded the event by several months.
20 And some were decisions that were made. Some were
21 actions that were taken. And, you know, it's
22 everything that leads up to it.

23 Q. But you're typically trying to analyze
24 after an accident or before how to prevent an
25 accident from happening again or something similar,

1 right?

T. TARANTO

2 A. You're trying to define in a -- FMEA,
3 you're saying how can we prevent the accident or
4 make the results of the accident be less severe. If
5 you're doing analysis of -- it's like if there's an
6 airplane crash, right, they look at every part of
7 the airplane. They look at what pilots did, what
8 they said, how the aircraft responded, what the
9 control feedback said, what the black box is telling
10 you. And they reconstruct what happened. So that's
11 the type of thing that you're doing.

12 Q. Other than the Texas litigation, have you
13 done root cause analyses that are backward looking
14 as in after an accident occurred?

15 A. Well, it doesn't always have to be an
16 accident. For example, I did a job with Caterpillar
17 in Pontiac, Illinois where they had two automated
18 assembly lines that were automatically powered that
19 assembled fuel injectors.

20 If you can imagine -- do you know what a
21 fuel injector is? It's a component of a diesel
22 engine that squirts the fuel into each cylinder.
23 They make these things by the millions. It's a very
24 high production, high-speed thing. They had two
25 production lines that had pneumatic components as a

1 significant part of their mode of operation. And
2 they couldn't make the rated throughput.

3 So we did root cause analysis. And at
4 the end of the day we increased the throughput of
5 the assembly lines to 18 percent. And we cut the
6 energy by compressed air that powered it, by 40
7 percent per fuel injector. That analysis is used
8 for all kinds of things in engineering. That's why
9 there's no one way, there's nothing to say this is
10 root cause analysis.

11 Q. I won't use accident, but a failure, a
12 failure event. Have you conducted root cause
13 analyses other than the case in Texas where it has
14 been after a failure event?

15 A. Yeah. The failure in DeWitt -- I don't
16 know how much -- it was a long time ago and
17 everything. I don't know how specific I can get
18 about some of these things. But basically what
19 happened was the machine had a very high-power
20 hydraulic system on it. And the machine was not
21 functioning as intended. And an electrical
22 technician started manually engaging different
23 switches in the control system and actually got the
24 machine in a state where two parts of the machine
25 were pushing against each other with hundreds of

1 tons of force. And it cracked the machine. And a
2 piece fell from 10 or 12 feet high and hit someone.
3 And this piece weighed probably half a ton.

4 Q. I know you said it was a while ago, but
5 do you remember what year that was or about what
6 year?

7 A. It was in the mid 1980s, I would guess, I
8 think is what I said.

9 Q. Are there any other examples of similar
10 event occurs, a failure event occurs, and then you
11 do a root cause analysis other than the DeWitt one
12 and this case?

13 A. I mean, I did a job at Frito-Lay in San
14 Antonio. They had problems making Dorito chips.
15 And it was the way they were blowing the corn. So
16 if you're going to build a factory to make Dorito
17 chips, you have to start with corn obviously. You
18 get a big truck of corn and start blowing it into
19 the process. We use compressed air to blow it in.
20 If you don't do things optimally, process doesn't
21 work good. Okay.

22 What's the root cause analysis? In that
23 case the root cause analysis happened to be they
24 didn't maintain balance in the system and the system
25 was not using the air properly and ultimately it got

1 to a point where the process didn't work right.

2 So, I can go on and on and on if you want
3 more.

4 Q. Well, I'm just looking for examples, to
5 the extent there are any, I understand you've done
6 in various context and it always differs. But where
7 there's been some kind of accident or failure event
8 and what you're trying to do is not fix it going
9 forward, but to analyze what caused that failure.

10 A. Well, I mean -- I mean, probably the
11 worst thing that can happen in engineering is for
12 you to design a perfectly elegant, well-engineered
13 solution to the wrong problem.

14 Q. Sure.

15 A. So -- in any corrective action that
16 you're taking, the first thing is to figure out
17 what's happening. And so, you know, here's what
18 it's doing. Gee, we'd like to make it do this
19 instead. So corrective action is very often a
20 component of the result of the root cause analysis.
21 Just like in the case of FEMA, okay, we've got a
22 very severe outcome with a high likelihood. How do
23 we change the design to make it less likely or make
24 the outcome less severe or both. Corrective actions
25 are usually a downstream product of root cause

1 analysis. T. TARANTO

2 Q. And are you familiar with the methodology
3 called direct cause analysis?

4 A. I'm not really familiar with direct cause
5 analysis. You know, the direct cause in this
6 situation was the overpressurization of the tank. I
7 mean, that's pretty cut and dry. And then -- you
8 know, so I'm not familiar with the term of direct
9 cause in the context of a methodology.

10 Q. Where you familiar with the phrase
11 apparent cause analysis?

12 A. Not as a -- no, not as a methodology. I
13 mean, there's always a lot of apparent things that
14 you see but very often those are -- symptoms are
15 superficial. You've got to dig deeper to get to the
16 root cause underneath it. I don't know if that's
17 what you're referring to.

18 Q. If we look at page 22, the third
19 paragraph under 3.4?

20 A. Was that 32?

21 Q. 22. You say -- it's the third paragraph,
22 3.4 -- "There are many strategies and analytical
23 methods used to investigate situations leading up to
24 undesirable events or outcomes. The method used
25 here is a form of root cause analysis."

1 So I guess what I'm getting at, what are
2 the strategies and analytical methods and why did
3 you choose root cause analysis over those other
4 methods?

5 A. I think root cause analysis is one of the
6 best organized methods. A lot of time analysis is
7 done with anecdotal information, not necessarily
8 going deeply into things and evaluating and not
9 making measurements, not getting proper facts and so
10 forth. And root cause analysis is structured to
11 move beyond the -- you know, the superficial things
12 that you might first see which are very often
13 symptoms, not, you know -- not the underlying
14 problems.

15 So root cause analysis is specifically
16 designed to get to that level. And if you read the
17 DOE publication, that's part of that discussion.

18 Q. The big picture, root cause analysis is
19 about identifying all the various causes and
20 contributing factors to the event?

21 A. Right.

22 Q. When you say there are many strategies
23 and analytical methods, can you just describe what
24 those are, what you mean by that?

25 A. What I mean by that is if you work with

1 industrial engineers, people have a lot of different
2 ways of approaching a problem. Some may have
3 particular names or methodologies to them. Others
4 may not. There's a lot of different ways to
5 approach it.

6 Root cause analysis is a methodology that
7 I think gives you the best outcome.

8 Q. The goal of root cause analysis is to
9 prevent recurrence of accident, right?

10 A. Prevent -- identify the, you know, the
11 factors leading up to the undesirable event and
12 ultimately continuing on. Very often a component is
13 what do we do to prevent that occurrence or minimize
14 the occurrence in the future.

15 Again, just like with a FEMA analysis,
16 you might be looking to reduce the probability that
17 the occurrence would happen or reduce the severity
18 of the result of it happening or both.

19 Q. Is it fair to say that root cause
20 analysis is not concerned with what, in fact,
21 actually caused an incident, but to address all
22 potential causes of a future occurrence?

23 A. No. It's to analyze all the things that
24 led to the event. I mean, like in an airplane
25 crash, how much sleep did the pilots get the night

1 before. Right? So -- TARANTO

2 Q. How do you go about identifying root
3 causes and contributing factors?

4 A. Well --

5 Q. I just ask, are you looking at your
6 report or is it something else?

7 A. Yes. I'm looking at the report for a
8 reference for it.

9 MR. KIRKPATRICK: While you're doing
10 that, Daniel, can you introduce tab M, please,
11 M as in Mary.

12 (Exhibit 9, DOE root cause analysis
13 document; 69 pages, marked for identification.)

14 A. If you go to page W 100 and it's
15 numerical, it's all numerically sequential. It just
16 has to be annex W.

17 MR. WHITELEY: It's introduced now as
18 Exhibit 9.

19 Q. I'm at 100.

20 A. Yes, 2.29. The DOE document says a cause
21 or root cause is a cause that if corrected would
22 prevent occurrence of this and similar occurrences.
23 It does not apply to this occurrence only. And it's
24 the most fundamental aspect of the cause.

25 Q. How do you go about selecting the cause I

1 guess is my question? What root causes and
2 contributing factors are. But I want to know how
3 you go about identifying them.

4 A. You basically look at all of the
5 different elements of the system or the event and
6 then you say, okay, if we -- if this particular
7 thing were to be corrected, would that have
8 prevented this. If that's true, you have a root
9 cause. If we did this, then this doesn't happen.
10 We have a root cause. There can be multiple root
11 causes. If you say, okay, this affected the outcome
12 but if by itself we corrected this one thing, it
13 wouldn't necessarily have prevented what happened.
14 That's a contributing factor.

15 Q. Okay. Okay. If you look at Exhibit 9, I
16 just want to confirm that this is the DOE document
17 that you are talking about.

18 A. Right. Yes.

19 Q. Did you follow -- so this document sets
20 out five steps of every root cause investigation.
21 Did you follow these five steps?

22 A. There's -- you know, follow-up isn't
23 really part of the scope for this. And corrective
24 actions, again, you know, it's not -- I followed
25 this process for the scope of what the task was and,

1 as I said before, you know, there's no one thing
2 that you point to and say this is the gold standard
3 for root cause analysis. But this is a very good
4 description of the methodology and the process.

5 Q. Did you engage in any independent data
6 collection as opposed to just reading the record or
7 analyzing the exhibits?

8 A. I mean, I went to the site visit and made
9 observations there and so forth. And I went to the
10 inspection of the tank pieces in New York and made
11 observations there. I didn't do any laboratory
12 testing, any metallurgy or anything. I mean, the
13 direct cause was pretty well-defined. And the
14 observations of the tank and such pretty clearly
15 showed no contributing factors as might have been
16 related to prior damage of the tank or corrosion or
17 other things which has been substantiated by OSHA
18 and others. So I didn't do anything like that.
19 But...

20 Q. So Phase II is most of what you did,
21 assessment?

22 A. Right. That was primarily the scope.

23 Q. Just because they didn't apply here, you
24 didn't do corrective actions and form or follow-up?

25 A. Yeah.

1 Q. Within assessment, it says that there are
2 several types of root cause analysis and then it
3 lists, I guess, six here, events and causal factor
4 analysis, change analysis, barrier analysis,
5 management oversight and risk-free analysis or MORT
6 analysis, M-O-R-T, human performance evaluation and
7 then Kepner-Tregoe problem-solving decision-making.

8 Would you classify your root cause
9 analysis as any of these or any particular type of
10 root cause analysis?

11 A. Well, there's components of the events
12 and casual factors. You know, you look for change
13 but that applies more to situations where you've got
14 a system and, gee, it worked great on Monday and
15 Tuesday, and then it had all kinds of trouble on
16 Wednesday and then by Friday it was magically
17 working again. So what's different among those
18 days. So that's really a bit of a different
19 analysis.

20 And barriers, you know, what are barriers
21 to the systemic process, management decisions, you
22 know, human factor performance. Those are all
23 things that you come into it. I didn't make a tree,
24 a decision tree drawing. I rarely engage in that.
25 But, yeah, they're all elements that affect things.

1 I mean, you might have something that was
2 done, a decision that was made months or years prior
3 that contributed to the occurrence.

4 Q. Would you consider yourself an expert in
5 root cause analysis?

6 A. I'm experienced in it. And have applied
7 it in many cases. Have I written extensively on the
8 topic or anything like that, no.

9 Q. Have you made any -- sorry. Go ahead.

10 A. Go ahead.

11 Q. I was just going to ask you: Do you have
12 any writings on it? I know you said not extensive.
13 But do you have any?

14 A. Only in the context of how I executed
15 projects. I did articles on the Caterpillar project
16 and so forth. Again, it was not really a primer on
17 the root cause analysis, here was the problem, here
18 was the analysis we did and so forth.

19 Q. Were those articles published anywhere?

20 A. Yeah.

21 Q. Where were they published, if you
22 remember?

23 A. Well, Department of Energy did a
24 technical report on the Caterpillar project. I've
25 had other articles published in Compressed Air Best

1 Practices magazine. One was the analysis of some
2 operations in a wire drawing plant, you know,
3 various articles. I've done ACEEE. I've done some
4 presentations at their annual meetings which are
5 peer-reviewed papers.

6 Q. But these are not on the root cause
7 analysis specifically? It's applied to --

8 A. Application of it, yeah.

9 Q. Let's look at page 42. The first root
10 cause that you identify is Oprandy's selection of a
11 high pressure source of compressed air?

12 A. Yes.

13 Q. Do you agree that once a pressure rating
14 has been established for a piece of equipment that
15 the user of that equipment has to insure that the
16 actual operating conditions don't exceed that
17 rating?

18 A. Well, that's not part of identifying a
19 high-pressure system as a root cause.

20 Q. I'm just asking you --

21 A. The direct cause was overpressurization.

22 Q. Right.

23 A. If the supply system was of a pressure
24 that would not have allowed that to happen, then
25 it's not a root cause. Right?

1 Q. Sure. My question --

2 A. So all this is saying -- all this is
3 saying is if you didn't use a high pressure system,
4 the event wouldn't have happened.

5 Q. Separate and apart from your analysis, do
6 you agree with the general principle, the way you
7 just said, is true?

8 A. What did you say?

9 Q. That once a pressure rating has been
10 established for a piece of equipment in a system,
11 the user of that equipment has to insure that the
12 actual operating conditions don't exceed that
13 pressure rating?

14 A. Yeah.

15 Q. Do you agree that the maximum allowable
16 working pressure of any given system is the lowest
17 maximum allowable working pressure of a component of
18 that system?

19 A. What's your boundary? What's your system
20 boundary?

21 Q. Am I wrong that -- so if you have a
22 system and the components have different maximum
23 allowable working pressures, you would say the
24 system's maximum allowable working pressure is the
25 maximum allowable working pressure of the lowest

1 pressure component of that system?

2 A. No, it's like saying the electrical
3 system -- the wires in the street by your house are
4 probably 13,000 volts. The voltage in your house is
5 220. If you draw your boundary around the house,
6 then the voltage is 200. But if you draw it back to
7 the power plant, there's 200,000 volts on main
8 transmission lines. It depends on what you call the
9 boundary.

10 Q. Sure. Okay.

11 Do you agree that given the maximum
12 allowable working pressure of the subject tank that
13 it should not have been incorporated into the system
14 that Oprandy's had set up?

15 A. No. You could fill that tank off that
16 system. It's like you can have 13,800 volts on the
17 lines outside and you have 220 in your house.

18 Q. So you believe that it was appropriate to
19 use the system that Oprandy's did to fill the
20 subject tank?

21 A. I didn't say that.

22 Q. Okay. I may have missed -- do you
23 agree --

24 A. Look at the system. There's a
25 transformer on the pole outside. That transformer

1 steps the voltage down from thirteen-eight to 220.
2 Then there's a line that comes in -- so, you can't
3 just say, is it inappropriate to connect
4 thirteen-eight directly to your house. Yeah, right.
5 You don't want 13,800 volts coming to your house.
6 Does that mean a part of your system can't be at
7 13,800 volts?

8 Q. Got you. Rather than deal in
9 hypotheticals, do you agree that it was
10 inappropriate to use the system that Oprandy's had
11 in the way that it was set up to fill the subject
12 tank?

13 A. I think if you look at the report under
14 contributing factors, there's elements of the
15 systemic issues that are reported as contributing
16 factors.

17 Q. So, yes, it's a contributing factor but
18 not necessarily a root cause?

19 A. Right. For example, one of the things
20 discussed is safety relief valves. If you put a
21 safety relief valve in that is set at an appropriate
22 pressure, would that by itself stop the incident
23 from occurring? No. It is not -- it's not -- it
24 doesn't address the root cause. Because the safety
25 valve can fail.

1 Q. Right. T. TARANTO

2 A. So it's a contributing factor is that
3 they didn't have a safety valve in the system. But
4 it's not a root cause.

5 Q. Okay. Okay. I just want to try to
6 unpack that a little bit. So when you say that the
7 safety relief device had failed therefore it's not a
8 root cause, does the root cause have to one hundred
9 percent of the time cause an accident for it to be
10 considered a root cause?

11 A. If you read it, a root cause is if you
12 eliminate this occurrence by itself, doing nothing
13 else, then the event wouldn't have occurred. So
14 overpressuring the cylinder is a root cause. If you
15 don't overpressure the cylinder, it doesn't explode.
16 But does a safety valve prevent you from
17 overpressurizing the cylinder, no, not by itself.

18 Q. Page 43 which I believe is the next page,
19 you discuss the failure to limit the flow of air
20 into the tank. And I understand that. Your report,
21 though, talks about how Mr. Foust set the pressure
22 regulator somewhere around 450?

23 A. Yes. Not -- my report quotes his
24 statement to OSHA which says that.

25 Q. Yes. But, in fact, your report also says

1 that the burst pressure was actually around 1100 to
2 1200 psi?

3 A. That's what the OSHA report establishes,
4 that's what the design parameters establish. That's
5 what the Worthington experts said. They test one
6 out of 500 units to 900 psi. Never had a failure.
7 That's pretty well established in the record.

8 Q. You don't disagree with any of that?

9 A. No.

10 Q. Am I right if Mr. Foust had actually set
11 the pressure at 450 psi there would not have been an
12 explosion?

13 A. Not really. I would say if the regulator
14 had limited the pressure to 450 psi there would not
15 have been an explosion.

16 Q. And that's because at 450 psi because
17 it's below the burst pressure, air could vent from
18 the subject tank and the system, although it would
19 be overpressured, would not explode?

20 A. Right.

21 Q. Now I'm on the same page and let me just
22 kind of discuss this. Is the lack of an
23 overpressure safety device in the compressed air
24 piping --

25 A. Right.

1 Q. You do not contend that Tyco had any
2 control over the compressed air piping that
3 connected the Poseidon system to the testing, do
4 you?

5 A. No.

6 Q. I want to talk about inappropriately
7 sized safety device. I know this might be very
8 technical.

9 A. Might come out what?

10 Q. The idea of an appropriately sized safety
11 device. I want to know, how does one determine
12 whether -- sorry. Go ahead.

13 A. Where does it say that?

14 Q. I'm on page 43 and it says -- let me
15 look. I'm not able to find it.

16 Do you agree that to have a pressure
17 relief device on a system it has to be appropriately
18 sized for it to effectively work?

19 A. What's your definition of appropriately
20 sized?

21 Q. You agree that a pressure relief device
22 can be too small for a given system, right?

23 A. Well, there's two factors. There's flow
24 rate and there's pressure. Is too small for what?

25 Q. To prevent overpressurization.

1 A. Overpressurization is controlled by the
2 pressure setting of where the valve opens. So now
3 the question becomes, are you saying then the air
4 can flow in more rapidly than the relief can relieve
5 it so the pressure is going to overshoot?

6 Q. Right. So if more air is flowing into
7 the tank than air flowing out, it will continue to
8 pressure past whatever the maximum rating is, it
9 would still burst if it weren't big enough, right?

10 A. Oh, likely not.

11 Q. And why is that?

12 A. Well, because if you're filling a bucket
13 with water and I've got a hole drilled in the
14 bucket, you can dump water in so that the level of
15 the bucket rises. As the level of the bucket rises,
16 the head increases which means the flow going out is
17 faster. And so then it becomes a balance of how
18 fast can you fill it and can you fill it fast enough
19 to get to the burst pressure. Even if the relief
20 capacity flow rate of a relief device was undersized
21 to deliver the full flow outlet at the 225 psi
22 limit, there's going to be some potential pressure
23 accumulation. But for that pressure accumulation to
24 go to 1,000 psi, that 1,000 psi, that relief, even
25 though it's undersized, is going to spill out a lot

1 more air, higher rate flow rate. So, I would say
2 you have to go some to undersize the relief valve.

3 Q. You're aware that there's a formula for
4 determining the appropriate size of a pressure
5 safety relief device?

6 A. Yes.

7 Q. Do you know what that formula is?

8 A. I have references to it. I don't know it
9 off the top of my head.

10 Q. We won't spend too much time on this.

11 MR. KIRKPATRICK: Daniel, can you mark
12 tab G.

13 MR. WHITELEY: You said G as in Gary?

14 MR. KIRKPATRICK: G as in Gary. Yes,
15 thank you.

16 (Exhibit 10, CGA S-1.1; 56 pages, marked
17 for identification.)

18 MR. WHITELEY: All right. It should be
19 up now.

20 Q. If you could refresh your browser. The
21 latest exhibit, which I believe is 10, is the CGA
22 S-1.1 2005 which is the CGA standards for pressure
23 relief devices.

24 Do you agree that this standard sets
25 forth the requirements for pressure relief devices

1 for cylinders for compressed gases?

2 A. Yeah.

3 Q. So am I right that if you wanted to know
4 how to properly size a pressure relief device, you
5 would look to this standard?

6 A. Well, I'm not sure about that. I think
7 if we take a little deeper dive on this, one of the
8 aspects of pressure relief devices in CGA's context
9 is if there's a fire. Let's suppose you're
10 transporting a gas cylinder, the vehicle catches
11 fire, the fire heats the cylinder. The heating of
12 the gas in the cylinder causes the pressure to go up
13 and you want to relieve the pressure before the
14 cylinder ruptures. Of course, the cylinder is going
15 to rupture at a lower pressure because of the
16 impingement of the heat. So I'm not sure that --
17 I'd have to research this to find out if it's only
18 the overpressurization factor or if it's the fire
19 impingement. Because I think they talk a lot about
20 fire impingement.

21 On a propane cylinder, if your gas grill
22 catches fire and your propane cylinder goes up and
23 gets overpressurized, then the blow-out plug blows
24 and it goes off like a torch. And when the fire
25 department comes and your gas grill is on fire,

1 don't expect them to put any water on the fire. The
2 idea is to let fuel burn out.

3 So I'd have to research that to determine
4 what the actual context of this is for CGA. ASME
5 has different formulas and most industrial tanks
6 that aren't going over the road, that are
7 stationary, are under the ASME requirements. And
8 they have formulas for calculating the flow of the
9 relief, allowing a certain amount of pressure rise,
10 pressure accumulation they call it. So I have to
11 check the context of it.

12 Q. Regardless whether it's ASME or CGA,
13 there are formulas out there for determining whether
14 the pressure relief device is sufficiently large or
15 allows sufficient amount of flow to prevent a burst
16 event?

17 A. Sure.

18 Q. So, while we're on this, I guess, there
19 are at least a dozen different types of pressure
20 relief devices, right?

21 A. That's being kind.

22 Q. I just, in this document, there's type
23 CGA 1 through 12.

24 A. The ultimate pressure relief device is a
25 dead weight device. So if we put you on top of a

1 valve, you're going to seal that valve to a certain
2 pressure based on what you weigh.

3 Q. Sure. Which is too much.

4 Given that there's all these different
5 type of pressure relief devices, how do you select
6 the right one for a given system?

7 A. Look at the codes and standards and what
8 they require. That's the first thing to do. And
9 then it's about layers of protection. The root
10 cause analysis definitely shows you the benefit of
11 layers of protection.

12 So in systems where I have had 13,800
13 volts in the street and I want 220 in the house, in
14 addition to safety valves, very often you put
15 rupture disks which is a piece of metal, maybe four
16 inches in diameter. If the pressure goes up a
17 certain amount, that just blows away and you open up
18 a four-inch hole. There's levels of protection,
19 there's different devices. You have to look at
20 codes and standards. CGA is worried about fire
21 impingement. In the unfired ASME code, not the
22 boiler code, not fire pressure vessel code, but in
23 the unfired pressure vessel code, ASME is not
24 concerned about the fire --

25 Q. And that all depends on the particulars

1 of the system? T. TARANTO

2 A. It depends on the -- yeah, I mean -- it
3 depends on whether or not NFPA 10 applies, right?

4 Q. Right. Depending on which standard
5 applies, it depends on how the system is set up?

6 A. It gives you design guidance.

7 Q. Okay.

8 A. Or design requirements. Sometimes it's
9 guidance. Sometimes it's requirements.

10 Q. And that's the primary place you look is
11 to --

12 A. The starting point. It's the starting
13 point.

14 Q. And so when you're setting up a system of
15 whatever kind, you have to consult whatever
16 guidelines or standards apply to that particular
17 system? There's not one place you can go to look
18 for it?

19 A. Right.

20 MR. KIRKPATRICK: I think this is a good
21 time for a break. Why don't we go off the
22 record until 1:40? Does that make sense?

23 THE WITNESS: That makes sense. I'm 1:32
24 right now.

25 (A recess was taken from 1:32 p.m. to

1 1:40 p.m.) T. TARANTO

2 Q. Mr. Taranto, you're aware that the
3 Poseidon system that Oprandy's had came with a
4 concrete safety gauge?

5 A. I know there's been mention of a safety
6 cage. I've never seen it or seen any specifications
7 on it.

8 Q. You don't have any understanding one way
9 or the other as to whether there was a safety gauge?

10 A. I've seen in the record that there's
11 mention in the record of there having been a safety
12 gauge. I think it was in the context of they used
13 it at the prior place and they had moved the
14 business to the newer -- to the existing place where
15 the incident occurred. But again, I don't know any
16 more about it other than that little bit I read in
17 the record.

18 Q. Did you find -- did you -- strike that.
19 Is it pertinent to your root cause
20 analysis whether there was a safety gauge and, if
21 so, whether it was provided to the employees and
22 whether it was used?

23 A. It's really not pertinent to the root
24 cause analysis because it wasn't there. Now, in
25 terms of corrective actions, if we went to the

1 corrective action phase, right, we could potentially
2 say that corrective action might be to use a safety
3 gauge.

4 Q. So the --

5 A. It wasn't part of the scope and it's only
6 minimally mentioned in the record.

7 Q. So if a safety gauge were at Oprandy's,
8 that would be relevant to your analysis?

9 A. Yeah. If there was a safety gauge there,
10 then the question would be, there would be questions
11 around it, right?

12 Q. And would you -- can you just kind of
13 describe what those questions would be?

14 A. Was it used, was it intact, did it
15 contribute to the severity of the accident, did
16 it -- you know, what did it -- how did it respond
17 under the conditions that occurred and so forth.

18 Q. On page 44 you mention as a contributing
19 factor the regulator's pressure gauge for tank
20 filling does not have a calibration date?

21 A. Right.

22 Q. Can you just describe why that is a
23 contributing factor?

24 A. That's a requirement in NFPA 10 that the
25 gauge be calibrated, I think it's annually. And a

1 gauge that's not calibrated is like a watch without
2 a battery. It tells time right twice a day.

3 Q. Do you contend that had the gauge been
4 properly calibrated that there's a decreased chance
5 that this incident would have occurred?

6 A. Yeah, because you have a gauge that you
7 know was reading correctly.

8 Q. So you believe then that because it was
9 not properly calibrated that it was not reading
10 correctly?

11 A. No. I'm saying because it was not
12 calibrated you don't know if it was reading
13 correctly or not.

14 Q. So I guess I'm just trying to -- you
15 agree that the -- can you just explain how if the
16 regulator -- strike that.

17 Do you agree that the regulator was set
18 to the fully open position --

19 A. No.

20 Q. -- when this incident occurred?

21 A. No.

22 Q. Do you believe that the regulator was set
23 to 450 psi as Mr. Foust indicated?

24 A. I don't know.

25 Q. Then I'm having trouble figuring out why

1 the calibration of the gauge could have contributed
2 to this event or how do you know that it could have
3 contributed to this event?

4 A. Because a gauge should be calibrated so
5 you know it's reading correctly. Again, it's a
6 contributing factor. It's not a root cause. I'm
7 not saying a properly calibrated gauge would have
8 prevented this accident. But an improperly
9 calibrated gauge is certainly a contributing factor.

10 Q. It could have, but you're not opining as
11 to whether it actually did contribute to the
12 accident?

13 A. Right.

14 Q. The next is, same page.

15 A. It contributed to the accident. I mean,
16 every contributing factor contributes to the
17 accident. What degree, you know, you can't say.

18 Q. So if the gauge were functioning
19 correctly, the fact that it had not been calibrated
20 would be irrelevant, right?

21 A. If the gauge was not in need of
22 calibration and it was reading correctly, then the
23 fact that it didn't have a calibration sticker on it
24 would still be a contributing factor under the
25 guidelines of the standard. But it would be less

1 likely that it was a contribution to the end event.

2 Q. And you don't have an opinion as to
3 whether it was reading correctly?

4 A. No.

5 Q. So just -- I'm sorry if this is rehashing
6 what you just said. But the -- if it were reading
7 correctly, it would still -- the lack of calibration
8 would still be a contributing factor because the
9 NFPA standards require it?

10 A. Right. And how would you know if it was
11 reading correctly?

12 Q. I'm just saying, assuming that it were,
13 it would still be a contributing factor?

14 A. Yes.

15 Q. The next is on page 44 and it is using
16 the cylinder gauge to check the pressure. So you
17 believe that it was improper for Mr. Foust to use
18 the cylinder's gauge to check the pressure?

19 A. The standards say you shouldn't do that.

20 Q. Are you contending that the cylinder
21 gauge was inaccurate?

22 A. Unknown.

23 Q. So you don't have an opinion one way or
24 another?

25 A. No.

1 Q. Sort of like the last one, it's still a
2 contributing factor because the standards require
3 not using the cylinder gauge to check pressure?

4 A. Right.

5 Q. You mention in this section that
6 Mr. Foust pressed down on the valve three times.
7 What's your understanding of the valve that he was
8 pressing down on?

9 A. The valve that allows the air or agent in
10 the case of an agent tank to be discharged from the
11 tank when the system activates.

12 Q. So in pressing down on the valve, he
13 opened the tank and essentially allowed air to flow
14 in?

15 A. I'm not sure what consequence pressing
16 down on the valve actually was. Because the
17 pressure allows the free flow of air in. It only
18 restricts the flow coming out. It doesn't let the
19 air come out until it actuates. I'm not sure what
20 is relevant about him having pushed on the valve
21 other than the fact that everybody seems to -- the
22 testimony documents that that's a correlation in
23 their eyes. Whether or not it's a -- whether or not
24 it's an observation or a contributing factor, it
25 might just be anecdotal.

1 Q. You don't have an opinion one way or the
2 other as to whether pressing of the valve
3 contributed at all to the event?

4 A. Yeah. There's nothing in the record and
5 there's nothing that substantiates that.

6 Q. And then in this second section you say
7 that the Kitchen Knight manual is silent with
8 respect to recharging instructions with respect to
9 test tanks?

10 A. Right.

11 MR. KIRKPATRICK: Daniel, can you mark N
12 as in Nancy.

13 (Exhibit 11, Kitchen Knight II technical
14 manual; 53 pages, marked for identification.)

15 MR. WHITELEY: It's loading in now as
16 Exhibit 11. It's in now as Exhibit 11.

17 MR. KIRKPATRICK: Great.

18 Q. Mr. Taranto, is this the Kitchen Knight
19 II product manual that you referred to?

20 A. We're onto 11?

21 Q. Yes. We're onto 11.

22 A. I'm not yet. I don't know why some
23 programmer couldn't have written this thing to
24 refresh when something new comes in.

25 Yes. Kitchen Knight II.

1 Q. You agree that failing to follow the
2 manual is a contributing factor of this accident,
3 right?

4 A. Not really. I mean, I don't have that as
5 a contributing factor because the manual doesn't
6 have anything in it. So failing to follow nothing
7 is not, you know --

8 Q. I'm getting tired.

9 You agree it's important for servicers,
10 maintainers of Kitchen Knight systems to follow this
11 manual generally?

12 A. I think the standards required that they
13 be trained on the system and trained to the manual
14 and that they follow it. Again, it's not
15 necessarily just my opinion.

16 Q. You agree with that, it's important to --

17 A. Yes, that's what it says you're supposed
18 to do.

19 Q. I believe you acknowledge this in your
20 report. If you look at the introduction so this is
21 the page ending in 00063, you agree that the manual
22 instructs that the system must conform to the
23 limitations detailed in this manual and be performed
24 by an authorized Pyro-Chem Kitchen Knight II dealer.

25 Do you agree that neither Chris Foust nor

1 Franklin Buono nor Brian Scott or anyone else at
2 Oprandy's was an authorized Pyro-Chem Kitchen Knight
3 II dealer?

4 A. I believe that Brian Scott testified that
5 he was an authorized dealer, but not an authorized
6 distributor.

7 Q. But your understanding, he was an
8 authorized Pyro-Chem Kitchen Knight II dealer?

9 A. That's what I -- I'd have to go back and
10 check the deposition. I believe at one point in his
11 deposition that's what he indicated. He was a
12 dealer, not a distributor. There was a distinction.
13 It was really unclear kind of what the distinction
14 was.

15 Q. You don't have any reason to believe that
16 Chris Foust was an authorized Pyro-Chem Kitchen
17 Knight II dealer, do you?

18 A. Well, an employee would not be. The
19 company is the authorized dealer.

20 Q. It's your understanding that the
21 company --

22 A. Pardon me.

23 Q. It's your understanding that a company is
24 an authorized dealer as opposed to an individual?

25 A. Yeah. I mean, a company is an authorized

1 distributor, an authorized dealer for a product
2 line.

3 Q. Do you have a basis for that
4 understanding?

5 A. Well, the contract for distributorship or
6 dealership is between the two companies.

7 Q. With respect to -- are you just speaking
8 in respect to industry practice in general or with
9 respect to the Kitchen Knight system in particular?

10 A. I mean, I worked for a fluid power
11 distributor for 1976 to 2000. And the contracts
12 never said Tom Taranto is an authorized distributor.
13 It said the company is an authorized distributor and
14 Tom Taranto is an employee of the company.

15 Q. Do you agree that it is important to
16 follow this instruction, that installation and
17 maintenance shall conform to limitations and be
18 performed by an authorized Pyro-Chem Kitchen Knight
19 II dealer?

20 A. Yes, I agree that that's important.

21 Q. If we now look at -- I guess I'll ask
22 more generally. Are you aware whether in the fire
23 protection industry this is a standard requirement
24 for servicers of pre-engineered fire suppression
25 systems?

1 A. A standard requirement or a standard
2 practice?

3 Q. Standard requirement.

4 A. It is a standard requirement.

5 Q. Have you consulted other pre-engineered
6 fire suppression systems?

7 A. Yes.

8 Q. What manuals are those?

9 A. Amerex manual I took a brief look at.

10 Q. Amerex?

11 A. Yeah.

12 Q. Any others?

13 A. No.

14 Q. If you turn to chapter 6 to the page
15 ending 112, this is system recharge. Here in the
16 general section it says at the end, "Because it is
17 difficult to completely understand every aspect of
18 an intricate pre-engineered system simply by reading
19 the technical manual, Pyro-Chem Kitchen Knight II
20 will not be responsible for system recharge
21 performed by any noncertified persons"?

22 A. Yes.

23 Q. Do you agree that's important to follow
24 as well?

25 A. Yes.

1 Q. And then at point C, 5-C in the second
2 column, it says that it's talking about after a
3 system recharge, it says, "Reinstall valve and
4 pickup tube and pressurize tank at 225 psi," right?

5 A. What tank are we talking about?

6 Q. This says after a system discharge. It
7 says reinstall valve and pickup tube and pressurize
8 tank at 225 psi?

9 A. Are we talking about an agent tank or a
10 test tank?

11 Q. I'm just asking you if that's what it
12 says, that "After a system discharge you should
13 reinstall valve and pickup tube and pressurize tank
14 to 225 psi and reinstall piping network"?

15 A. That's what it says.

16 Q. Do you agree this manual doesn't contain
17 step-by-step instructions on how to refill --
18 whether an agent or testing, doesn't contain
19 step-by-step instructions on how to do that?

20 A. It does not.

21 Q. And that's true with respect to whatever
22 type of tank, agent or test?

23 A. No. This is -- this is an agent tank.
24 Because it says, Flushing solution part number
25 yada-yada-da must be used when flushing the system.

1 And the test tank doesn't have a pickup tube in it.

2 Q. My question is -- Mr. Taranto, it's been
3 a long day. I'm not going back to this.

4 I just want -- I'll try to ask yes or no
5 questions. If you have an explanation, definitely
6 feel free to make them. I'm just asking, this
7 manual and this chapter does not contain
8 step-by-step instructions on how to refill any kind
9 of tank?

10 A. B says fill the tank half full with
11 water, agitate the tank. It says, use flushing
12 solution part number 79656. So what are those if
13 they're not the steps of flushing the system?

14 Q. It does not contain step-by-step
15 instructions on how to pressurize the tank?

16 A. No, it just says pressurize to 225 psi.

17 Q. It's not just that the manual doesn't
18 contain step-by-step instructions on the test tank
19 but with respect to any test tank?

20 A. That's a step-by-step instruction for
21 using an agent tank to flush.

22 Q. In terms of pressurizing the tank. I'm
23 sorry if I misspoke.

24 A. In terms of pressurizing the tank, no.

25 Q. So looking at the next page, there's a

1 note here that says the pressure gauge attached to
2 the tank valve should not be used to determine when
3 the charging pressure has been reached, pressure
4 regulator must be used?

5 A. Where is that?

6 Q. Pardon?

7 A. What paragraph are you on?

8 Q. On the next page, 11, the note in the
9 bottom?

10 A. There it is. Yeah.

11 Q. And that is -- you mention that in your
12 report as part of why it was a contributing factor
13 to --

14 A. Yeah.

15 Q. Okay. We've discussed -- there are many
16 different ways to recharge a tank, right, to
17 pressurize a tank?

18 A. What do you mean by different ways?

19 Q. You can transfill, you can use a
20 compressor, et cetera, et cetera?

21 A. Right.

22 Q. Is there any way to count the number of
23 ways or just countless number of ways?

24 A. Well, I'm sure there's a limited number
25 of ways. But, you know, ultimately you've got to

1 introduce a pressurized gas into the tank.

2 Q. And there are different kinds of
3 regulators as well as we've discussed?

4 A. Right.

5 Q. One stage, two stage?

6 A. Right, different pressure.

7 Q. Back pressure, vacuum pressure,
8 differential pressure?

9 A. Right.

10 Q. Different pressure relief devices, right?

11 A. Yes.

12 Q. And different ways to connect the piping
13 from the source to the subject tank?

14 A. Yes.

15 Q. Depending on all of those different
16 factors, the steps that you would go through to fill
17 a tank would be different?

18 A. Yes. Well, yes. To pressurize the tank.

19 Q. Is that why the Compressed Gas
20 Association places the duty to provide step-by-step
21 instructions on the supplier of the transfill
22 equipment?

23 A. I guess I don't know the reasoning behind
24 it.

25 Q. But the Compressed Gas Association does

1 place the duty to provide step-by-step instructions
2 on the supplier of the transfill equipment, right?

3 A. Yes, I believe that's true.

4 Q. Did you consider whether the supplier of
5 the transfill equipment -- who would be the supplier
6 of the transfill equipment here?

7 A. I don't know.

8 Q. Would it be Poseidon?

9 A. I don't know what -- I don't know where
10 all those different parts came from.

11 Q. Did you consider whether the failure of
12 the -- strike that.

13 Are you aware that Brian Scott at
14 Oprandy's had a list, a step-by-step list, of
15 instructions from Poseidon about how to use their
16 system?

17 A. I believe I saw that in his deposition
18 although I don't know that there was anything ever
19 entered into the record to show what that was.

20 Q. Assuming that he did indeed have those
21 step-by-step instructions, would it be a
22 contributing factor to this incident that he did not
23 provide those instructions to his employees?

24 A. Yeah. Yeah. They should have the
25 instructions.

1 Q. Is there any reason that that wasn't
2 included in your report?

3 A. I never saw the instructions. The
4 instructions aren't part of the record.

5 Q. So you --

6 A. There was only talk about the
7 instructions. There's no document that said here's
8 the instructions. I haven't seen it, have you?

9 Q. So if you saw those instructions, that
10 might be a contributing factor?

11 A. Right.

12 Q. But because you've only seen it in the
13 form of testimony, without the document, he said
14 that they exist, you can't say for certain that it's
15 a contributing factor?

16 A. It's kind of like following the manual on
17 something that's not in there.

18 Q. But --

19 A. There's nothing to follow. Right?

20 There's --

21 Q. Do you have any reason to doubt that
22 those instructions were accurate?

23 A. Yeah. I haven't seen them.

24 Q. Did you ever seek them out or look for
25 them?

1 A. I think in the record there's discussion
2 about the fact that he thought maybe OSHA had all
3 the documentation or something. They --

4 Q. You didn't go out and look for Poseidon's
5 standards step-by-step instructions --

6 A. Only the ones that would matter are the
7 ones that they had.

8 Q. Wouldn't it matter if Poseidon didn't
9 give the correct instructions to Oprandy's?

10 A. Right. But going out and finding what
11 instructions are there. I mean, the instructions we
12 have here are entered into the record as being the
13 instructions. If I just go out on the web and find
14 Kitchen Knight instructions, this is the record.

15 Q. Your understanding is because it was what
16 was provided to you by counsel?

17 A. Right. It's got the Bates number on it.

18 Q. Unless it's in the record, you can't
19 consider it? Unless it's a physical document in the
20 record, you can't consider it for your report?

21 A. Yeah, I wouldn't.

22 Q. Next, if you go to page 28 and that's
23 3.6.7 in your report, you identify as a -- I'm
24 looking at the wrong thing. Sorry. 3.6.5 and no
25 access to manual and servicing procedure

1 instructions. T. TARANTO

2 Is that a root cause or is that a
3 contributing factor?

4 A. It would be a contributing factor.

5 Q. So the fact that neither Chris Foust nor
6 Franklin Buono were given access to the Kitchen
7 Knight II manual is a contributing factor in this
8 event?

9 A. Yes.

10 Q. And if you had the Poseidon manual, that
11 might also be a contributing factor, depending on
12 what the manual said?

13 A. Sure.

14 Q. Now, I understand from a root cause
15 analysis perspective that what's in the manual is
16 important to preventing future accidents. But given
17 that the manual was never given to the employees,
18 whether something was in the manual or not wouldn't
19 have prevented the accident in this case, right?

20 A. Again, that's why they're contributing
21 factors, because -- it's not one thing, if this
22 happened, then the incident wouldn't have occurred.
23 So it doesn't change -- it doesn't change the aspect
24 of the manual being silent on using a test tank. It
25 doesn't change anything.

1 Q. You're not implying that whether it was
2 in the manual or wasn't in the manual actually, in
3 fact, contributed to the accident because the manual
4 was never given to the employees?

5 A. No, I'm saying that what is or isn't in
6 the manual is still relevant as a contributing
7 factor because it's -- the contributing factor is a
8 chain of things.

9 Q. Right.

10 A. And so it's -- it's in the chain.

11 Q. Right. And so is not giving that manual
12 to employees?

13 A. Yes.

14 Q. That's also in the chain. I'm looking at
15 page 51. Sorry to jump back.

16 You opine as a contributing factor that
17 the manual does not comply with NFPA 17A?

18 A. Yes.

19 Q. The reason is because the manual must
20 contain instructions necessary to safely design,
21 install and reliably perform the maintenance and
22 recharge service in accordance with the manual,
23 right?

24 A. Right.

25 Q. And that the NFPA 17A requires the manual

1 to train a person to safely design, install and
2 perform maintenance in accord with the manual? I'm
3 looking at 6.1.1, the second sentence.

4 A. 17A, it says the manual is essential in
5 the definition of a trained person. 17A, 3.3.18.

6 Q. While you're looking, I guess the
7 ultimate question is --

8 A. It defines trained as "A person who has
9 undergone the instructions necessary to safely
10 design and install and reliably perform the
11 maintenance and recharge service in accordance with
12 the manufacturer's design, installation and
13 maintenance manual."

14 So if the instructions to perform that
15 work don't exist in the manual, then it's -- the
16 manual is required to do the training.

17 Q. And your understanding --

18 A. In the definition.

19 Q. In your understanding that is based on
20 the text of the regulation NFPA 17A and in that
21 interpreted document as well?

22 A. I just read the text from 17A.

23 Q. That's what you're basing your opinion
24 on?

25 A. It says they have to be trained to the

1 manual. T. TARANTO

2 Q. Where does it say that?

3 A. If the manual is silent on some aspect of
4 performing the maintenance and other functions shown
5 here, if the manual is silent on that and the manual
6 is necessary to be trained, then how can you be
7 trained in that aspect of the work if the manual is
8 silent with respect to it?

9 Q. So, just for example, if the manual says,
10 perform a piping integrity test or the balloon test,
11 something like that, the manual should also set out
12 step by step how you do that?

13 A. Yeah. Isn't that what it says? It says
14 that it has to -- well, it might be a better
15 definition of manual is -- reference for design,
16 installation and maintenance of the lists of
17 chemical system and equipment.

18 Q. Right, that's the definition of manual.

19 A. And the balloon test is part of the
20 maintenance of the system. I believe it has to be
21 done twice a year.

22 Q. Doesn't it just say the document
23 referenced for design? It doesn't say that it has
24 to have every -- it says reference for design,
25 servicing and inspection, not that it contains every

1 piece of information that would be necessary for the
2 design, installation and performance.

3 A. I don't understand how you're reading
4 document referenced. I mean --

5 Q. The document --

6 A. I would read that as the document
7 reference is the bible for designing, installing and
8 maintenance of the system is the manual.

9 Q. Sure. And to use the bible analogy, I
10 mean the bible doesn't tell you everything about how
11 it is in life, but it contains the core things.

12 Do you agree there's information outside
13 of the four corners of the manual that can be
14 relevant for servicing the system?

15 A. That's like we talked about very early
16 on. You have the documentation component. Then you
17 have the hands-on component. Yeah, you need to have
18 both components of training. You can't write
19 everything down necessarily that you do in a
20 hands-on training. But the manual -- the manual is
21 the reference for that information.

22 Q. Sure. And so where is it -- what's the
23 basis for your opinion that the information you say
24 should have been included is required to be included
25 under those regulations?

1 A. Because -- because the reference, the
2 authoritative reference for doing these various
3 functions is the manual. And a trained person is
4 trained to do what's in the manual. So if it's not
5 in the manual, how can you be trained to do it.

6 Q. So I guess, again, to go back to the --
7 so let's look at the definition of trained. It's
8 3.3.18. It's your -- you say that this requires a
9 person to be able to effectively service the system
10 based on what's in the manual, right?

11 A. Yes. Isn't that what it says? In
12 accordance with the manual. The manufacturer --

13 Q. Do you agree that trained is defining a
14 person?

15 A. Yes.

16 Q. A person who has undergone instructions
17 necessary to safely service the system in accordance
18 with the manual?

19 A. Yes.

20 Q. And so, for example, if the manual said
21 perform the balloon test, the trained person is
22 someone who received training on how to do that?

23 A. Yes. And they received it based on the
24 instructions in the manual.

25 Q. So if the instructions aren't in the

1 manual, it would be impossible to train someone on
2 that?

3 A. Correct.

4 Q. I guess you said you reviewed one other
5 manual for a pre-engineered fire suppression system.
6 Did that comply with Rule 17A?

7 A. I took a brief look at it. I didn't
8 review it in detail which is why it's not on the
9 document list.

10 Q. So you have not ever seen a manual that
11 you say complies with Rule 17A?

12 A. I have not. I have not researched that.

13 Q. If a manual were to say conduct a
14 hydrostatic test of the cylinder, do you think that
15 the manual would need to contain step-by-step
16 instructions on how to do that?

17 A. Yeah. If you go to -- I mean, if you go
18 to the documents that govern doing hydrostatic
19 tests, they had details how you go about doing it.

20 Q. You're saying that also needs to be in
21 the manual?

22 A. Or say hydrostatically test in accordance
23 with the referenced document.

24 Q. It wouldn't be enough if someone has been
25 trained on how to hydrostatically test in some other

1 context?

T. TARANTO

2 A. Why are we talking about hydrostatically
3 testing? I mean, the service techs -- it's not part
4 of the maintenance of the system. The tanks need to
5 be hydrostatically tested and they're sent to
6 someone who does that as a business.

7 Q. Exactly. So that person is trained in
8 how to hydrostatically test, right?

9 A. Yes.

10 Q. And so if someone, for example, were to
11 be trained on how to fill and use a test tank, there
12 wouldn't need to be step-by-step instructions for
13 them to comply with the product manual?

14 A. But the manual is the authoritative
15 reference of doing those things safely.

16 Q. So your answer is no to that?

17 A. No. Right.

18 Q. Okay. So am I right that your opinion is
19 that a layperson should be able to pick up the
20 manual and have it tell them how to maintain,
21 install, service the system?

22 A. That would be -- yeah.

23 Q. I think we already covered this, the
24 source for that is, you believe, the text of 17A?

25 A. Yes.

1 Q. If we now go to page 53, you say that TFP
2 has a general obligation to provide warning or
3 danger that may arise with the use of the product.
4 I just want to clarify again, that's your
5 understanding of the law, not your opinion?

6 A. Yes.

7 Q. You state that it is common for service
8 providers to provide maintenance on fire protection
9 equipment without being authorized servicers, right?

10 A. Yes.

11 Q. And the basis for your opinion are these
12 examples that you cite in your report?

13 A. Yes. I went to two different websites
14 and they typically will show distributors to be that
15 they're a distributor for certain products but they
16 service all products and all systems.

17 (Court reporter requested clarification.)

18 Q. So do you have any indication that these
19 companies have actually performed service on fire
20 protection systems?

21 A. No. I just accessed their website and I
22 documented that in the appendix.

23 Q. If we look at 7.1, you say that the
24 manufacturer has a duty to make sure that the
25 warning is available to all users of the product?

1 A. Yes. T. TARANTO

2 Q. That would be in this case anyone who
3 handles the test tank after it leaves Tyco?

4 A. According to the website -- according to
5 that website that's in the end notes, the quote is
6 "This duty extends to those using or purchasing the
7 product as well as to those who could reasonably be
8 expected to be harmed by its use."

9 Q. And that's the understanding of the law,
10 again, you're not opining that's the case?

11 A. That's the reference that I cite in back.

12 Q. If, for example, Tyco's test tank were to
13 be sold to, you know, given to an authorized
14 distributor and sold, for example, to Oprandy's,
15 Tyco has a duty to make sure everyone has the
16 manual; is that your understanding?

17 A. They have the duty to warn of the
18 hazards. Anyone that could reasonably be expected
19 to be harmed by its use.

20 Q. Is that a yes, they would be responsible
21 for making sure that Oprandy's has the manual?

22 A. That's not what I read on the website
23 is -- they don't have to necessarily teach them how
24 to do a balloon test properly. They just have to
25 give them the information to do it safely. They

1 have a duty to warn them of the harm that could come
2 to them, you know, and as far as doing the job
3 properly, the way I view this can be reserved for
4 their authorized distributors. But they have to
5 warn anyone who could reasonably be expected to be
6 harmed by the use what the harm is and how to avoid
7 being harmed.

8 Q. And that's your understanding of the law
9 based on that reference that you cited?

10 A. Yes.

11 Q. This is something that's not related to
12 anything we're talking about right now, but do you
13 attempt -- I guess I should say, am I right that you
14 do not attempt in your report to rank the
15 contributing factors in terms of which is more
16 important, which is less important?

17 A. You can't do that. I mean, the way you
18 would do that from an engineering sense is you
19 determine all the factors that affect the
20 performance of a machine. And then you run tests.
21 And you change this factor. Then you change that
22 factor. Then you change these two. Then you change
23 those three. And they run the test over and over
24 again. Then you have some definition of how much
25 each factor contributes. I'm not sure we want to

1 blow this tank up a hundred times to find out the
2 significance.

3 Q. At page 54 onto 55 you say, "While the
4 direct cause of the incident was overpressurization,
5 Tyco's failure and their duty to warn of a danger
6 associated with overpressurization of the Tyco fire
7 products test tank that ruptured is a contributing
8 factor"?

9 A. Where exactly are you reading that?

10 Q. Bottom -- the last two lines of 54 and
11 then the top of 55.

12 A. Right.

13 Q. So is it your contention that Tyco had an
14 obligation to warn that overpressurization can lead
15 to explosion?

16 A. Yes.

17 Q. Is that based on the assumption that it
18 was not known to the individuals at Oprandy's that
19 overpressurization could lead to explosion?

20 A. I don't know that that's relevant. It's
21 a requirement of NFPA 10 and that notice is on the
22 agent tank.

23 Q. So your contention is based on the
24 requirement of NFPA 10?

25 A. Yeah. The tank was produced by a fire

1 protection company. Tyco, TFP, right. It was sold
2 into the fire protection market. It was being
3 handled by a fire protection distributor. And NFPA
4 10 says that tanks have to have certain labeling on
5 them. And that's part of the -- the pressure.

6 Q. All I'm asking is the reason that you're
7 saying that a duty existed or whether Tyco should
8 have done this is because it's in the regulations?

9 A. No. I think that's to both points. It's
10 in the regulations and it's something that you need
11 to know to safely -- to be warned that you might be
12 harmed by overpressurization. I think that speaks
13 to both points, right.

14 Q. Sure. So because the law requires it and
15 because NFPA 10 requires it?

16 A. Yeah.

17 Q. Is it your understanding that any tank
18 whether it's governed by an NFPA 10 or not is
19 required to include the warning that
20 overpressurization could lead to explosion?

21 A. I think that -- you know, I don't know.
22 I think that under the law overpressurization is a
23 hazard that could cause you harm. So it would stand
24 to reason that you should be -- there is a duty to
25 warn.

1 Q. For all manufacturers?

2 A. As for a tank that is not a fire
3 protection tank, I don't know that NFPA 10 would
4 apply. Whether it's a CGA spec -- there would be
5 other specs that apply if it wasn't an NFPA --

6 Q. In terms of the law, all tanks are
7 required, whether by NFPA 10 or not, to include a
8 warning that overpressurization could lead to
9 explosion?

10 A. Yeah. I mean, I have a tank that I got
11 from the farm supply store. And it's got a safety
12 relief valve on it. It's got an instruction manual.
13 It has all kinds of warnings on it like don't tamper
14 with the relief. Yada-da-da-da.

15 Q. Any tank that does not warn about a risk
16 of overpressurization leading to explosion is, you
17 would say, defective in that it does not warn
18 properly?

19 A. Yeah. It doesn't warn of a hazard that
20 can be pretty severe.

21 Q. And it doesn't matter -- it's not
22 relevant to your opinion whether that risk of
23 explosion is already well-known among users of that
24 product?

25 A. I didn't see anything in the reference

1 about the law to say if it's something even -- that
2 everybody knows that you still don't have a duty to
3 warn of it. The law doesn't distinguish and say,
4 well, everybody knows this, so you don't have to
5 worry about it. Don't use a hair dryer when you're
6 standing in the bathtub.

7 Q. Okay.

8 A. They actually say that in the manual.
9 Look at the hair dryer manual sometime. They talk
10 about using it in the water and stuff. There's
11 warnings there.

12 Q. Luckily -- unfortunately, I should say, I
13 don't use hair dryers very much. I'll take your
14 word for it.

15 Have you studied any other tanks in the
16 fire protection industry to determine that those
17 warnings are included?

18 A. They're included on the exemplary tanks
19 for the agent tank that Tyco produces.

20 Q. Any other tanks?

21 A. Yes. I have -- I have Amerex tank. I
22 have -- bought some fire extinguishers. I just
23 looked at the labels on the fire extinguishers we
24 have, we have on fire trucks at the firehouse. I
25 just looked at a smattering of things. And there's

1 information in there. Warnings on the label, the
2 agent tank that Tyco makes has warnings. The Amerex
3 tank has warnings. So --

4 Q. And the warnings specifically say that
5 overpressurization can lead to explosion?

6 A. I don't know that they say that in so
7 many words, but they give you a max pressure. They
8 warn of the hazard and so forth. Whether
9 overpressurization explosion is specifically on
10 there, I don't know. But it's effectively telling
11 you don't overpressurize it.

12 Q. Next, on page 45 is a lack of description
13 of test tank intended use. Is your opinion based on
14 the assumption that a description of the intended
15 use of the product would have changed the way that
16 the tank was handled in this case?

17 A. I believe if you look at NFPA 10, it says
18 that you shall not use a fire protection tank for
19 anything other than intended use. And since the
20 intended use isn't defined, you really can't use
21 that test tank for anything.

22 Q. Even if it's well-known in the industry
23 that test tanks are used for testing piping
24 integrity?

25 A. NFPA 10 doesn't say that. NFPA 10 says

1 fire protection tank should only be used for their
2 intended use. And if there's no statement of the
3 intended use, it's another one of those nothing
4 things.

5 Q. And your opinion on this is based on NFPA
6 10?

7 A. I believe it's in 10. I don't believe
8 it's in 11. I believe that's in 10.

9 Q. If we look at 65, and we'll -- I'll be at
10 a good point for a break here very soon. But if we
11 can just finish out these questions.

12 65, you list several other deficiencies
13 that you see in the manual. We've done intended
14 use. That's NFPA 10 that requires that.

15 A. What page are you on? I'm sorry.

16 Q. I'm on page 65. Because my question was
17 going to be you say NFPA requires description of
18 use, and I gather that's in NFPA 10?

19 A. Is that the reference that I cull out --
20 on page 65.

21 Q. I don't think you were specific, so I was
22 going to ask you that.

23 A. I just did a search on NFPA 10. C.1.3
24 says marking clearly the intended use. It's in 10.
25 It's in 10 in different places, I think.

1 Q. The next is the manual does not provide
2 for -- necessary to perform required service at six
3 month intervals.

4 Is the basis for that opinion -- strike
5 that.

6 Is the reason that you believe that the
7 manual is defective because in NFPA 17A they
8 reference the balloon test so in the manual you have
9 to have a step-by-step on how to perform that?

10 A. I think in the Kitchen Knight manual they
11 also mention the piping integrity test being
12 performed twice a year. Then they don't give you
13 anything about how to do it.

14 Q. Because it's culled out in the manual, it
15 also needed a step-by-step?

16 A. The manual is the authoritative source.
17 Just like under chapter 5 recharge we were looking
18 at before. System recharge. It says, step one,
19 after discharge, inspect the entire system for
20 damage. Yada-da-da-da. Number two, disconnect the
21 quarter-inch actuation tubing. And then there's
22 more. Number three --

23 (Court reporter requested clarification.)

24 A. Number three is relieve the pressure from
25 the top chamber of the tank valve by depressing the

1 core of the valve. And then there's something to
2 follow. And there's 10 steps in the manual.

3 Q. I understand. I don't need you to read
4 the manual to me. I'm trying to get through this as
5 quickly as possible to let you go on with your day.
6 I'm just asking, is your opinion based on the fact
7 there's not a step-by-step instruction on how to
8 perform the piping integrity test?

9 A. It's silent.

10 Q. Is that why you believe the manual is
11 deficient in that respect?

12 A. Yes.

13 Q. Would it affect your opinion if it's
14 common knowledge in the fire protection industry how
15 to perform the piping integrity balloon test?

16 A. No. Because the 17A and 10 both say that
17 the authoritative reference is the manual and it
18 needs to have the instructions to safely perform
19 those functions and a trained person has to be
20 trained to the manual.

21 Q. Your report says that with greater
22 attention given to the age agent tanks as compared
23 to the test tanks?

24 A. What --

25 Q. I don't have it in front of me. I'll

1 just ask you in general. Your overall opinion is
2 because the manual and other aspects of warnings
3 give more attention to agent tanks as opposed to
4 test tanks that it could be interpreted that agent
5 tanks are more dangerous than test tanks?

6 A. Yeah. I think that leads to complacency
7 which is a contributing factor. And I believe I
8 cited some information from the depositions.

9 Q. I'm just asking if that's what your
10 opinion is.

11 A. Yeah, yeah.

12 Q. My question is: What is the basis for
13 your opinion that the differential treatment of
14 those two tanks leads to complacency? I just want
15 to make sure, are you looking through your report or
16 is there anything else you're looking at?

17 A. Yeah, I'm looking through the report.

18 Q. If it helps, I believe it's at page 25.

19 A. 26. Mr. Foust testifies, "What I was
20 doing the day of the accident doesn't actually apply
21 anything to do with fire extinguishers. I was just
22 filling the cylinder with air." And Mr. Harding,
23 who is the Johnson Controls technical support fellow
24 does the training, says have you ever been used --
25 have you ever trained in the use of such tanks,

1 meaning the test tanks. And the training I have
2 received is on a fire suppression tank not a test
3 tank.

4 And he goes on to -- the question is,
5 when you reference that the training you have
6 received has not been -- has been on a fire
7 suppression tank, can you clarify what type of tank
8 you're talking about. Sure, there are several tanks
9 in the fire suppression system. They're full of
10 liquid agent that are used for purposes of
11 suppressing the fire. It's a component of the fire
12 suppression system.

13 Then the question is, now, as part of the
14 fire suppression system, is the test tank a part of
15 the system or not. And he says it's not. It's
16 clearly listed in the manual as a component of the
17 system. But as per factory certification training
18 classes are concerned, did any of those factory
19 certification training classes encompass the subject
20 matter in using the test tank. No. Then there's a
21 similar exchange with the director of engineering.

22 Q. Mr. Taranto, I just -- I don't need you
23 to read from the report. If I need you to, I'll let
24 you know. I'm trying to get us out of here as
25 quickly as possible.

1 A. I want to be clear here. You said it's
2 my opinion. It's not just my opinion. These people
3 testified. And if you read their testimony, it's
4 showing they don't have the same respect for an air
5 tank that they have for an agent tank.

6 Q. So you are observing that complacency as
7 a contributing factor, it's not your opinion that
8 you're making in this case?

9 A. Right. It's both. It's an opinion, an
10 observation.

11 Q. Is there anything that -- is there
12 anything your expertise or background allows you to
13 conclude that complacency is a contributing factor
14 as opposed to just what these people are saying?

15 A. Complacency is a contributing factor
16 defined in various references for the root cause
17 analysis. And it's true of everything. I mean, I
18 was training a guy to run a fire pump one day on an
19 engine. And he went and shut the pump down and he
20 reached up with his foot and he kicked the valve
21 closed and the fire hydrant came three feet out of
22 the ground. And it was because he was complacent.

23 Q. Just to be clear, you're not opining as
24 an expert in human psychology, right?

25 A. No. I have some knowledge of it. It's a

1 component of the root cause analysis that I made
2 these observations and it certainly seems to be a
3 contributing factor in this instance.

4 Q. So you read these depositions and
5 concluded complacency is a contributing factor?

6 A. Which is something if you review the
7 literature on root cause analysis is something that
8 you should look for.

9 Q. When you refer to the literature, is that
10 the DOE standard Department of Energy standard?

11 A. And there's also another book I have on
12 the subject. I've got a couple of books on it. I
13 don't know how many I put in the reference, but
14 they're in the reference in the end, the end notes.

15 Q. Do you have off the top of your head the
16 names of those books?

17 A. It's right in the end notes in the back.

18 Q. So there's nothing outside of the end
19 notes that would contain -- that you were relying
20 on?

21 A. It's actually -- it's not in the end
22 notes. It's in appendix X. And it's Latino, Latino
23 and Latino, "Root Cause Analysis Improving
24 Performance for Bottom Line Results." CRC Press,
25 Taylor & Francis.

1 MR. KIRKPATRICK: Why don't we, if you're
2 done with that answer, why don't we go off the
3 record for five minutes? Come back shortly
4 after 2:50. Sound good?

5 THE WITNESS: Sounds great.

6 (A recess was taken from 2:46 p.m. to
7 2:52 p.m.)

8 Q. We are ready to turn to page 46 which is
9 contributing factor training. Actually, it's a
10 different part of your report, but I don't think we
11 need to look at it. You agree that so-called buddy
12 training is inappropriate, right?

13 A. Yeah. I mean, buddy training can be
14 good, can be bad. And you have no way of knowing
15 which is which.

16 Q. So that's why it's not best practice?

17 A. Not best practice.

18 Q. So at page 46 you contend that Tyco Fire
19 Products' failure to train on test tanks is a
20 contributing factor to this event?

21 A. Yes.

22 Q. Just as an initial question, you're aware
23 that neither Mr. Scott nor Mr. Foust nor Mr. Buono
24 received training from Tyco Fire Products?

25 A. Yes.

1 Q. But it's still a contributing factor
2 because it's in the chain?

3 A. Yes.

4 Q. As in it was a contributing factor that
5 they weren't trained and also a contributing factor
6 that if they were trained, it wouldn't have included
7 the right stuff?

8 A. Yes.

9 Q. What is the basis for your opinion that
10 Tyco had an obligation to provide training on the
11 test tank?

12 A. Because the test tank is listed as part
13 of a system and it's involved in the maintenance of
14 the system and the NFPA 17A and 10 both require that
15 the manual include all those things that are
16 necessary to maintain and service the system. And
17 according to the deposition of Mr. Harding, the
18 technical support rep in charge of training, he
19 says, our primary resource for the training is the
20 manual. And he said, we looked back and there was
21 never any training on test tanks.

22 Q. So your understanding for why it was up
23 to Tyco -- I guess, what's your understanding for
24 why it was Tyco's responsibility to provide training
25 as opposed to someone else?

1 A. Because the tank was produced by a fire
2 protection company, sold into the fire protection
3 market, used in a fire protection system being
4 serviced by an unauthorized fire protection company
5 and the NFPA 17A and 10 both clearly say that the
6 manual is the reference for the maintenance and
7 other functions of the system and that a trained
8 person has to be trained to the manual and none of
9 that happens in relationship to the intended use of
10 the test tank. I mean somebody could say I'm going
11 to use the test tank to flush the system. Well,
12 that won't work because the test tank doesn't have a
13 syphon tube in it anywhere. That whole space is
14 just a void.

15 Q. Am I right that the basis for your
16 opinion that Tyco's training is deficient is because
17 Tyco's manual is deficient?

18 A. Well, not solely. The manual is
19 deficient. Mr. Harding says we looked back and
20 we've never done any training on the tanks so there
21 was nothing additional on that subject in the
22 training. At one point he said he's never been
23 trained on a test tank.

24 Q. In terms of NFPA 17A or NFPA 10 where
25 does it say that Tyco is responsible for training on

1 all things in the manual? Or rather, I should
2 say -- so you're saying because it's not in the
3 manual, you couldn't have trained on it?

4 A. It's another one of those nothing things,
5 yes. It says under definition, the manual is the
6 document referred for design, installation,
7 maintenance of the listed chemical agent equipment.
8 And a trained person is trained to the manual and
9 the manual is produced by the manufacturer.

10 Q. So it's the same reasons that the manual
11 is deficient and because Mr. Harding in his
12 deposition said that they don't train on the
13 manual -- rather, on the test tanks?

14 A. It would be different if he said, I know
15 the manual doesn't say anything about the test tank,
16 but here's our PowerPoint presentation, and here's
17 what we teach them about the test tank in the
18 training. That would be different, right? It's
19 absent in both places.

20 Q. If it were in either place -- let's say,
21 for example, it were in the training, would the
22 manual then be acceptable?

23 A. I think the manual would still be
24 deficient. But at least people would be trained on
25 how to do the proper maintenance when it comes to

1 the use of the test tank. RANTO

2 Q. You mentioned, I believe, earlier that
3 NFPA 17A requires service technicians to have
4 training that's acceptable to the jurisdiction
5 having authority?

6 A. Yes.

7 Q. Right? And does that training typically
8 include how to properly conduct routine maintenance
9 on the system?

10 A. I really didn't look into that training.
11 I know that Mr. Scott in his deposition said that he
12 was trained once every three years at a company from
13 the Baltimore area who I presume is recognized by
14 the authorities having jurisdiction and that -- and
15 what that training includes, I don't know.

16 Q. Why do you presume that it is recognized
17 by the authority having jurisdiction if you haven't
18 seen a document to that effect?

19 A. Well, I don't know how the company could
20 have been in business for -- they've been in
21 business a long time and that's what they do is
22 training. I don't see how they could be in business
23 doing training unless the authorities having
24 jurisdiction said you were trained by FPC or
25 whatever that company was, hey, that's good. So I

1 didn't look at that. T. TARANTO

2 Q. Okay.

3 A. Because we're really not talking about
4 third-party training here. But the NFPA standards
5 don't say you have to be trained by the
6 manufacturer. You have to be trained by someone and
7 in a process that is acceptable to the authority
8 having jurisdiction and there are third-party
9 training companies out there.

10 Q. And if the third-party training companies
11 out there trained on how to use a test tank, would
12 you still believe that Tyco's training is deficient?

13 A. Yes.

14 Q. Because it should be both --

15 A. Because maybe I elect to go to Tyco
16 training and I don't get trained by the third party.

17 Q. But if, for example, Mr. Scott were to
18 have been trained by the third party, trained in how
19 to use the test tank, would it still be a
20 contributing factor to this case that Tyco's
21 training didn't have a description of how to use the
22 test tank?

23 A. Yeah, I think it would.

24 Q. And that's because --

25 A. The standards required the manual to be

1 the reference. It's the authoritative reference.
2 And required them to train -- required Tyco to train
3 people to maintain recharge and do the various
4 functions of the system.

5 Q. Do you agree that the CGA standards
6 require that anyone involved in transfilling should
7 be properly trained in how to do so?

8 A. They do. But then again, you get into
9 that business question. Is there a business gas
10 supply or they're a business supplier --

11 Q. And --

12 (Simultaneous crosstalk.)

13 A. It's required in both places. It's
14 required by NFPA. It's also required by CGA.

15 Q. And the fire code, right?

16 A. And the fire code and in 17A and 10.
17 They have to be trained in --

18 Q. So if we could look at Exhibit 5.

19 A. Okay.

20 Q. If you look at -- it's page 8 at the top
21 left and it's 5.7.

22 A. 5.7.

23 Q. And this is transfilling. The transfer
24 of gases from one container to the other shall be
25 performed only by the gas supplier or by personnel

1 who shall be trained in the use of the equipment?

2 A. Yes.

3 Q. Do you agree this is not confined just to
4 the use of the gas supplier?

5 A. No. It applies to anyone who is doing
6 transfilling.

7 Q. Have you ever designed a curriculum --
8 rather, have you ever been involved in a training
9 that you would say is compliant with NFPA 17A?

10 A. No.

11 Q. Have you ever designed or been involved
12 with any training that is specific to a particular
13 NFPA standard?

14 A. Yeah. I can't cite the standards by
15 number but I was -- I was involved -- I was in the
16 chiefs' ranks, the fire department, for 12 years,
17 two years as chief and I was involved in the
18 training on a wide range of topics at the firehouse,
19 all of -- many of which have some element of NFPA
20 requirements pump out of emission and such.

21 Q. It's not a training specific to a NFPA
22 standard? They have elements of the NFPA standards
23 embedded in them?

24 A. There's specific requirements for certain
25 trainings.

1 Q. And you've been involved in designing
2 those trainings?

3 A. I've been involved in designing and
4 offering those trainings, yeah. To the men of the
5 fire department.

6 Q. Other than the NFPA standards, is there
7 any other -- strike that.

8 Other than looking at the regulations
9 themselves, is there anywhere else that you would
10 look to see what should be included in a
11 manufacturer's training?

12 A. Manufacturer's training for --

13 Q. A manufacturer training like the one
14 we're talking about in the report?

15 A. For what, system maintenance?

16 Q. Yeah.

17 A. I guess if I was going to -- if I was
18 going to address a training like that, a starting
19 point would be obviously the NFPA 10 and 17A, 17.
20 And then from there the New York State Fire Office
21 has tons of resources that you can call and you can
22 contact somebody there and say what have you got on
23 restaurant systems trainings and so on and so forth.
24 There's other avenues that you can get resources to
25 do that type of thing with.

1 Q. You have not -- I may have already asked
2 this, I apologize if I have. You haven't been
3 involved in training specific for pre-engineered
4 chemical suppression -- fire suppression systems?

5 A. No.

6 Q. In terms of on page 66 which is 8.3.1.1,
7 you state that the omission of required procedures
8 was a contributing factor to this event, right,
9 because Tyco did not provide step-by-step
10 instructions on how to fill the tank?

11 A. That ten steps on how to do the recharge,
12 they don't have any steps on the balloon testing or
13 handling the tank and refilling it or anything.

14 Q. What is the basis for your opinion that
15 it was Tyco that was supposed to provide the
16 instructions on how to fill the test tank?

17 A. If you look at NFPA 17, it's the
18 manufacturer's responsibility to have a manual that
19 has all that stuff in it. It's the reference.

20 Q. So the key sources for these obligations
21 are the definition of the manual and the definition
22 of trained?

23 A. Right. The testimony of what Tyco does
24 in their training and doesn't do.

25 Q. You're not opining that Poseidon was not

1 obligated to provide step-by-step instructions on
2 how to refill using their system?

3 A. It's actually transfill from their
4 system. Not refill.

5 Q. Right. Transfill. You're not saying
6 that they weren't required to do that?

7 A. No.

8 Q. If you had their step-by-step, you could
9 opine on whether that was a contributing factor?

10 A. Right.

11 Q. So we've talked about how there are many
12 ways to fill a tank depending on the type of
13 equipment you have?

14 A. Right.

15 Q. Is it your contention a description of
16 all of those should be in the manual?

17 A. No. I think that filling from
18 compressors would be one area. And I think
19 transfilling should be in the manual as well because
20 if you look at the -- both the NFPA standards and
21 some of the texts in the manual, it says for the
22 agent tanks, they have to be charged with nitrogen.
23 And the description of doing the piping integrity
24 check in 17A, it says that you should use dry air or
25 nitrogen. So if you use nitrogen to fill an agent

1 tank or if you use nitrogen to fill an air tank,
2 nitrogen is a transfilling operation and the
3 nitrogen tanks that you typically buy are 2,000 psi
4 and higher full of nitrogen.

5 So filling the agent tank off of a 2,000
6 psi nitrogen system should be included and filling a
7 test tank off a 2,000 psi nitrogen system or higher
8 should also be included in my opinion. Because
9 that's a very foreseeable thing because you have to
10 fill the agent tank with nitrogen.

11 Q. So any foreseeable way that you could
12 fill the tank you think should be included?

13 A. Something that would be foreseeable to
14 the manufacturer and certainly transfilling from a
15 nitrogen bottle cascade system is very foreseeable
16 to the manufacturer because they have to do it in
17 the agent tank and it's allowed in the test tank.

18 Q. And it's your contention that it's not
19 just Tyco who have this obligation but any
20 manufacturer?

21 A. Right.

22 Q. Have you ever seen a product manual for a
23 pre-engineered fire suppression system that you
24 believe meets the requirements of the NFPA including
25 instructions for filling?

1 A. I haven't researched that.

2 Q. We can look now at page 47. I think I
3 already got your answer on this. I want to circle
4 back. Sorry. You're saying both Poseidon and Tyco
5 had an obligation to provide step-by-step
6 instructions?

7 A. Yeah.

8 Q. Now page 47, this is a contributing
9 factor is a lack of product labeling.

10 A. Right.

11 Q. So you rely on the regulations that we've
12 discussed, the industry standards we've discussed in
13 forming your opinions as to what should have been
14 included on a label; is that right?

15 A. Yes.

16 Q. And primarily in NFPA 10?

17 A. And 17A.

18 Q. Where do you rely on 17A?

19 A. Actually, it's actually in 10 because if
20 you do a search on 17A under nameplate, nameplate
21 doesn't exist in 17A. The only place a nameplate
22 exists is in NFPA 10. So the requirements to have
23 the gross weight after the tank is filled and the
24 charge pressure and the maximum pressure and all the
25 different things that are on this label here for the

1 agent tank, that's not there out of the goodness of
2 Tyco's heart. That's there because it's required in
3 NFPA 10. And NFPA 17A is part of NFPA 10.

4 And similarly, a similar label with this
5 tank should only have dry air or nitrogen in it.
6 And it should only be pressurized to this level.
7 And they should only be used for testing and so
8 forth. Very simple label like that similar to this
9 one but with the specifics for the test tank is
10 certainly a reasonable thing to have and I believe
11 because the test tank is also part of the fire
12 suppression system, my opinion is it's required by
13 NFPA 10 because 17A and 17 are part of NFPA 10.

14 Q. So your understanding of what Tyco was
15 required to do and your opinions as to what should
16 have been on the tank itself come from NFPA 10 and
17 17 by virtue of it being incorporated?

18 A. Yes.

19 Q. When you said Tyco didn't include this
20 out of the goodness of their heart, do you mean
21 generally manufacturers only label things as
22 required by the regulations?

23 A. Right. And I believe one of the expert
24 reports that I read -- I don't know if it was
25 Mr. Christensen or Dr. Christensen or who -- said,

1 oh, yeah, he's got this label in his report, but
2 Tyco is not required to put that label on that tank.
3 So he was opining that Tyco could produce an
4 unlabeled agent tank. And that's clearly not the
5 case.

6 Q. Well, but what I'm asking is when you
7 said, you know, they're not doing it out of the
8 goodness of their heart, you're saying manufacturers
9 put labels on things because the regulations require
10 them to do so?

11 A. Because the regulations require them.
12 Because they have a duty to warn. You ever seen the
13 labels on a step ladder?

14 Q. Not off the top of my head.

15 A. Look at your step ladder when you get
16 home. Look at all the warning labels on it. Don't
17 put it on tilting ground and all kind of labels on
18 it.

19 Q. So your opinions on what should have been
20 included in the label is basically whatever NFPA 10
21 says should have been on the label?

22 A. Right.

23 Q. Did you look anywhere else to determine
24 whether -- what should be included on the label?

25 A. Again, it's made by a fire protection

1 company. It's sold in the fire protection industry.
2 It's used in a fire protection system. If it looks
3 like a duck, walks like a duck, it's a duck.

4 Q. The answer to that is no, just to be
5 clear?

6 A. Yes.

7 Q. In terms of warnings generally, do you
8 agree that the effectiveness of a warning can be
9 affected by things like the language that's used on
10 the warning label?

11 A. Oh, yes.

12 Q. And the syntax and the emphasis?

13 A. Yes.

14 Q. The way that the user perceives the
15 complexity or cost with complying with the label?

16 A. Yes.

17 Q. And all sorts of other things affect how
18 effective a label is. You did not analyze those
19 types of factors in terms of determining whether
20 this label would have actually been followed?

21 A. No. I mean -- I don't know that there's
22 relevance. If there was a label there and the label
23 was poorly done, then some opining on the label and
24 the fonts used and the pictures and yada-da-da-da
25 might be appropriate. But the fact that there is no

1 label was pretty fundamental.

2 Q. Am I right that as with the manual and
3 the training, it doesn't matter whether this label
4 would have been followed for it to be a contributing
5 factor, right?

6 A. Right.

7 Q. And again, on page 68 you discuss the
8 manufacturer's general duty to warn. Again, that's
9 your understanding of the law, right?

10 A. Yes.

11 Q. And is there -- and outside of the
12 context of the fire protection industry,
13 manufacturers -- how do they know when they have a
14 duty to warn?

15 A. You should read that article that I
16 referenced. The second part of that was the
17 conundrum of labeling for manufacturers. And the
18 thing is that it's not a -- it's not a clear-cut
19 thing. I read the article and certainly, you know,
20 I'm -- I did a little bit of research in that arena,
21 but I'm not an expert in that. But, you know
22 it's -- yeah. It's question mark.

23 Q. Your understanding is that Worthington
24 actually made this tank, sold it to Tyco and then
25 Tyco sold it?

1 A. No. T. TARANTO

2 Q. No, that's not your understanding?

3 A. Worthington mailed the cylinder.

4 Q. Right. Right.

5 A. The cylinder went out of Worthington
6 without a valve on it. It became a tank when Tyco
7 put a valve on it and designed it for the use in the
8 fire protection system. That's when it became a
9 fire protection tank. From Worthington it was a
10 cylinder, a 4BW 225 cylinder made to that end number
11 and that's what it was when it left Worthington.

12 Q. Did Worthington know that it would be by
13 Tyco in its pre-engineered fire suppression system?

14 A. I think that tank was made. I think
15 there's testimony that that tank was made only for
16 Tyco. So -- and they presumably would know and have
17 an application for it.

18 Q. Do you think that Worthington had a duty
19 to warn under the NFPA standards and that they
20 should have put in a label?

21 A. No. Because they're not a fire
22 protection company. That particular division makes
23 DOT cylinders and they fulfill all the DOT
24 requirements having the 4BW testing one out of every
25 500 tanks to 900 psi or 1,000, whatever it was. And

1 all the requirements of making the cylinder Tyco
2 met.

3 Q. And NFPA 10 doesn't apply to Worthington?

4 A. Right. Right. Worthington -- the
5 requirements of the cylinder. It doesn't become a
6 fire protection tank until Tyco applies it and
7 introduces it into that market.

8 Q. Because your opinions are specific to
9 what the NFPA requires, Worthington is not subject
10 to the NFPA, ergo, they didn't need to include a
11 nameplate?

12 A. Right. The requirements that they -- the
13 requirements that the Code of Federal Regulations
14 for the markings on that DOT cylinder were done by
15 Worthington. It's stamped into the valve end of the
16 head.

17 Q. I believe we've covered this, but when
18 you say in your report that the NFPA standards
19 require name plates, you're referring to NFPA 10?

20 A. Yes, the word nameplate doesn't appear in
21 17A.

22 Q. And we just discussed earlier today the
23 gas supplier's duty to warn?

24 A. Right.

25 Q. If we assume that Oprandy's or we can

1 abstract if we assume that a company is a gas
2 supplier, you would agree that they would have the
3 duty to warn of foreseeable issues with the product?

4 A. Right. And under CGA I think that they
5 have to put the diamond with the cylinder picture on
6 it and the pressure hazard or whatever. I mean, the
7 CGA has specific requirements that are necessary for
8 them.

9 Q. Essentially the gas supplier has to
10 follow those CGA standards?

11 A. Right.

12 Q. And you do not have -- other than, you
13 don't attempt to design a label, right? You're just
14 saying the label that was on -- the nameplate that
15 was on the agent tank should have been on the test
16 tank?

17 A. Or something similar to it. Something
18 that applied to -- I mean, I'm saying that the NFPA
19 10 calls for a nameplate on a fire suppression tank.
20 The test tank is listed in the manual as a component
21 of the fire suppression system. It should have a
22 label on it. The content of the label should be
23 consistent with the requirements of NFPA 10 and
24 that, you know would be the gross weight and so
25 forth and things, and it would be a label similar to

1 the one they put on the agent tank.

2 Q. Are these labels similar to the labels
3 that are on hand-held fire extinguishers?

4 A. Yes, they are. I can show you one if you
5 want. It's right around the corner.

6 Q. Is there anything in particular on the
7 warning label that you -- that in particular you
8 believe would have prevented the accident or are you
9 just saying that by not having this it was a
10 contributing factor?

11 A. Right. It's not a root cause. If
12 it's -- it by itself is going to prevent the
13 accident, then it's a root cause. It's a
14 contributing factor.

15 Q. So there's no particular -- if we look at
16 the NFPA -- rather, the label that was on the agent
17 tank, there's nothing you would point to and say
18 this specific thing should have been included on the
19 test tank?

20 A. NFPA points out what should have been --

21 Q. I'm sorry. I misspoke. Not should have
22 been on the test tank but what would have prevented
23 the accident from occurring.

24 A. Now I'm confused, I guess.

25 Q. I'll start over. In the context of --

1 because this is a contributing factor and not a root
2 cause, there's not anything on this label that you
3 can point to and say, this would have prevented the
4 accident if it were on the test tank?

5 A. Right.

6 Q. So you're not contending that any of the
7 things on the agent tank label, had they be on the
8 test tank label, would have, in fact, changed the
9 way that Chris Foust filled the system, for example?

10 A. Right. Right. I'm not contending that.
11 If that were the case, then it would be a root
12 cause.

13 Q. Your report doesn't cite to any CGA
14 standards, does it?

15 A. No. Because the experts introduce the
16 CGA standards and, yes, they do apply, but is the
17 business a gas supplier, you know, I suppose that's
18 something that could be debated. But it is clearly
19 a fire protection tank.

20 MR. KIRKPATRICK: Let's take ten minutes
21 and I should hopefully be very close to
22 wrapping up. Why don't we come back at 3:35?

23 THE WITNESS: That sounds great.

24 (A recess was taken from 3:26 p.m. to
25 3:37 p.m.)

1 MR. KIRKPATRICK: I have hopefully just a
2 few more questions.

3 Q. I want to go back to your CV which is
4 appendix C. So from 1976 to 2000 you worked for
5 Tri-Line Corporation?

6 A. Yes.

7 Q. I know this is very broad, it's a long
8 time you worked for Tri-Line Corporation. What were
9 your general job responsibilities there?

10 A. I was a sales engineer for hydraulic and
11 pneumatic equipment and we applied hydraulic
12 systems, pneumatic systems, air compressors for,
13 like I said, a wide range of applications. Anything
14 from a packaging machine to a pharmaceutical
15 application where we used the air to grow penicillin
16 bugs to car crushers. We had a request one time,
17 they built a hotel in Niagara Falls with a
18 restaurant that revolved on top. They wanted to
19 turn the whole hotel.

20 Q. And you told them no?

21 A. Every room is a Falls view room then if
22 the whole hotel is turning. It turned out that's
23 not hard to do. The difficult thing is to stop it
24 once it is turning. We designed systems for just,
25 you name it, some of the craziest stuff.

1 Q. So generally designing hydraulic and --
2 what was the other word you said?

3 A. Pneumatic systems. Compressed air
4 systems. Again, everything from the missile grade
5 air system to Stennis Space Center to running
6 packaging machines in a potato chip plant.

7 Q. Did you in the course of that, do any
8 work in the fire protection industry?

9 A. Yes, mainly dry sprinkler systems because
10 they use compressed air to keep the water out of the
11 pipes until there's a fire. They do that in
12 warehouses and unheated buildings that will freeze
13 up otherwise. It's the primary application.

14 Q. Was that a large percentage of your work
15 at Tri-Line?

16 A. No.

17 Q. And then in 2000 you went to
18 Pneumatech --

19 A. Right.

20 Q. -- in Wisconsin?

21 A. Yes. I actually continued to live here
22 in Syracuse.

23 Q. Okay. Was there a reason that you went
24 from Tri-Line to Pneumatech?

25 A. Tri-Line was a distributor for a product

1 that Pneumatech manufactured related to optimizing
2 compressed air system performance. And Pneumatech
3 had actually contracted with Tri-Line for me to work
4 on some of their projects. They made me an offer to
5 become a partner in the company. So professionally
6 it was a good move. And I left Tri-Line very
7 amicably. I mentioned the Six Sigma project on the
8 big jet engines that drive the turbine power plants.
9 After I left Tri-Line, Tri-Line contracted with
10 Pneumatech for me to continue working on that Six
11 Sigma project with GE. So it was all very amicable.

12 Q. And in your work there, did you do any
13 work in the fire protection industry?

14 A. Again, just related to where compressors
15 or compressed air is applied to fire protection
16 systems. Again, not a big piece of it.

17 Q. Do you have an estimate for how many of
18 those types of projects you worked on?

19 A. Oh, usually it was in the context of
20 doing the entire plant compressed air system. Many
21 of them, I'd say many -- maybe 50 or 75 had
22 components where they use air over here for fire
23 protection as well. But it was dealing mainly with
24 the main plant air system.

25 Q. And then at Data Power Services, that's

1 your own -- that's your own business, company?

2 A. Yes.

3 Q. In terms of the -- I'm sorry. In terms
4 of the sprinkler systems you were talking about, it
5 would be a part of your compressed air system, you
6 didn't actually design the sprinkler system?

7 A. No.

8 Q. Back to Data Power Services, that's your
9 own company?

10 A. Yes.

11 Q. Do you have any employees?

12 A. No.

13 Q. Can you just kind of generally describe
14 what you do at Data Power Services?

15 A. There's really a few elements. I do
16 training for compressed air system designed
17 primarily for improving efficiency, but also
18 improving performance and reliability. I'm a
19 trainer for the Department of Energy. I'm a trainer
20 for a group called Compressed Air Challenge. I'm a
21 trainer for the United Nations industrial
22 organization and I train globally for, again,
23 compressed air system performance and efficiency
24 improvements. And so the training is one component.

25 And then I also do compressed air system

1 assessments where I will work with clients to do a
2 lot of root cause analysis to achieve whatever their
3 goal is, make their production lines run better,
4 make the system more reliable, whatever it is. And
5 those are, you know, those are really the two
6 primary areas of the business.

7 I also mentioned I have a company that
8 makes portable data loggers and packages transducers
9 because in the process of doing root cause analysis
10 on compressed air systems, I developed instruments
11 to make measurements and gather the data. And after
12 many years of beating off customers that wanted to
13 buy the stuff, I said maybe we'll start making it
14 and selling it. So that's another relatively small
15 component of what I do. It's all word of mouth.
16 It's built to order. And so we will help customers
17 with data acquisition systems.

18 Actually have one client right now where
19 they make polyester thread and we're working on a
20 computer system to monitor the polyester area and
21 provide real time advisories to the operators about
22 the operating conditions and so forth. So actually
23 there will be an embedded computer installed and so
24 forth. Those are really the three areas that I deal
25 in.

1 Q. Again, in any work while you've been at
2 Data Power Services specific to the fire suppression
3 industry?

4 A. Again, just as an adjunct usually to
5 industrial system.

6 Q. When it's an adjunct to an industrial
7 system, you're not involved in actually designing or
8 servicing or building the fire suppression aspect of
9 it, right?

10 A. Right.

11 Q. And then in terms of your professional
12 experience -- and you have several things listed
13 here, it's on C 94. We don't need to go through all
14 of them.

15 But do any of these listed here involve
16 the fire protection industry or have you in the
17 course of your professional experience consulted,
18 worked on, anything like that for the fire
19 protection industry?

20 A. No, not really. I mean, my area of
21 expertise is fluid power. So I've worked on -- my
22 work is involved on the hydraulic or the compressed
23 air side of things. As I mentioned, I've worked
24 with compressed air systems, everything from systems
25 on board submarines to systems that, like I

1 mentioned, the missile grade air system at Stennis
2 Space Center. You know, Stennis has 12 miles of
3 pipe operating at 2,500 psi. It's a major, major
4 league system both in terms of size, pressure and
5 power.

6 When the fellow asked me about that to
7 see if I would work with him, he told me what he had
8 and I said where did you get my name. He says, I
9 was talking with an engineer at Oak Ridge National
10 Labs and he said there were only two people in the
11 country he knew of that could deal with our system.
12 And he hadn't called the other guy yet.

13 Q. Then in terms of your experience as an
14 instructor, those things listed here, not your
15 volunteer firefighter experience, are any of these
16 specific or have they been specific to the fire
17 protection industry?

18 A. No. Only in the context of maybe how the
19 compressed air system interfaces with a dry
20 standpipe system. Again, the focus is the fluid
21 power side of things.

22 MR. KIRKPATRICK: I am done. So I'm
23 ready to pass you and I thank you for your
24 time. I appreciate it.

25 THE WITNESS: Yes, thank you.

1 MS. FAPPIANO: Can we go off the record
2 for just one sec?

3 (Discussion held off the record.)

4 (A brief recess was taken at this time.)

5 MR. FROMSON: We are agreeing to
6 reconvene tomorrow at 9:00 a.m.

7 (Whereupon, the proceedings were
8 adjourned at 4:00 p.m.)
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J U R A T

I do hereby certify that I have read
the foregoing transcript of my deposition.

THOMAS TARANTO

Sworn and subscribed

before me

this _____ day of
_____, 2020.

A Notary Public

of the State of _____

I N D E X

WITNESS	EXAMINATION BY	PAGE
THOMAS TARANTO	MR. KIRKPATRICK	5

E X H I B I T S

EXHIBIT	DESCRIPTION	PAGE
Exhibit 1	Thomas Taranto's expert report; 121 pages	8
Exhibit 2	NFPA 17A; 15 pages	46
Exhibit 3	NFPA 10; 64 pages	52
Exhibit 4	NFPA 17; 29 pages	52
Exhibit 5	CGA P-1-2015; 29 pages	64
Exhibit 6	CGA C-7-2014; 166 pages	69
Exhibit 7	extracted portions of 2020 NYS Fire Code; 12 pages	70
Exhibit 8	Manual of Style for NFPA Technical Committee Documents; 43 pages	78
Exhibit 9	DOE root cause analysis document; 69 pages	97
Exhibit 10	CGA S-1.1; 56 pages	110
Exhibit 11	Kitchen Knight II technical manual; 53 pages	121

CERTIFICATE

STATE OF NEW YORK)

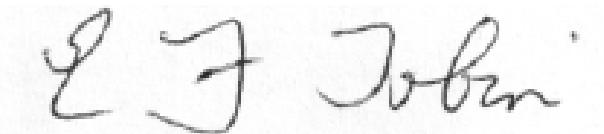
) ss.

COUNTY OF SUFFOLK)

I, Elizabeth F. Tobin, a Registered Professional Reporter and Notary Public within and for the State of New York, do hereby certify:

That Thomas Taranto, the witness whose deposition is hereinbefore set forth, was duly sworn by me remotely and that such deposition is a true record of the testimony given by such witness.

I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

A handwritten signature in dark ink, appearing to read "E F Tobin". The signature is written in a cursive, flowing style.

ELIZABETH F. TOBIN, RPR

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June 25, 2020

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ERRATA

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PAGE/LINE CHANGE/REASON

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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